# Drug & Cosmetic INDUSTRY

## JUNE, 1949

### FEATURE ARTICLES • •


| | | |
|---|---|---|
| TGA MEETING 1949 | Thomas R. Farrell | 682 |
| LEHN & FINK DIAMOND JUBILEE | Hilda C. Farrell | 685 |
| VITAMIN $B_{12}$ | Milton A. Lesser | 687 |
| AIR DIFFUSION IN ATMOSPHERIC CONTROL | F. Hornerkamp | 690 |
| ANTACIDS | Charles Fuchs | 692 |
| ODOR AND OLFACTION | Paul G. Lauffer | 694 |
| DENTIFRICES | Harry Hilfer | 696 |


### DEPARTMENTS • •


| | | |
|---|---|---|
| KEEPING POSTED | Thomas R. Farrell | 677 |
| PACKAGING AND SELLING | Frazer V. Sinclair | 699 |
| NEWS | Justus W. Matthaei | 715 |
| PRODUCTION FORUM | Francis Chilson | 727 |
| INDUSTRY'S BOOKS | Harry G. Kelbly | 739 |
| PATENT THOUGHTS AND TRENDS | Thomas Cifelli, Jr. | 740 |
| YOUR TRADE-MARK RECORD | John H. Graham | 743 |
| COMPOUNDERS' CORNER | Milton A. Lesser | 748 |
| ADVANCING THERAPY | Milton A. Lesser | 751 |
| PERFUMER'S SHELF | Milton A. Lesser | 756 |
| ABREAST OF THE MARKETS | Harry G. Kelbly | 579 |



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ELMER SHEETS, Managing Editor
FRANCIS CHILSON, Production Consultant
M. A. LESSER, Technical Editor
HARRY G. KELBLY, Raw Material Editor
JUSTUS W. MATTHAEI, News Editor
HILDA C. McCOLLOM, Art Director



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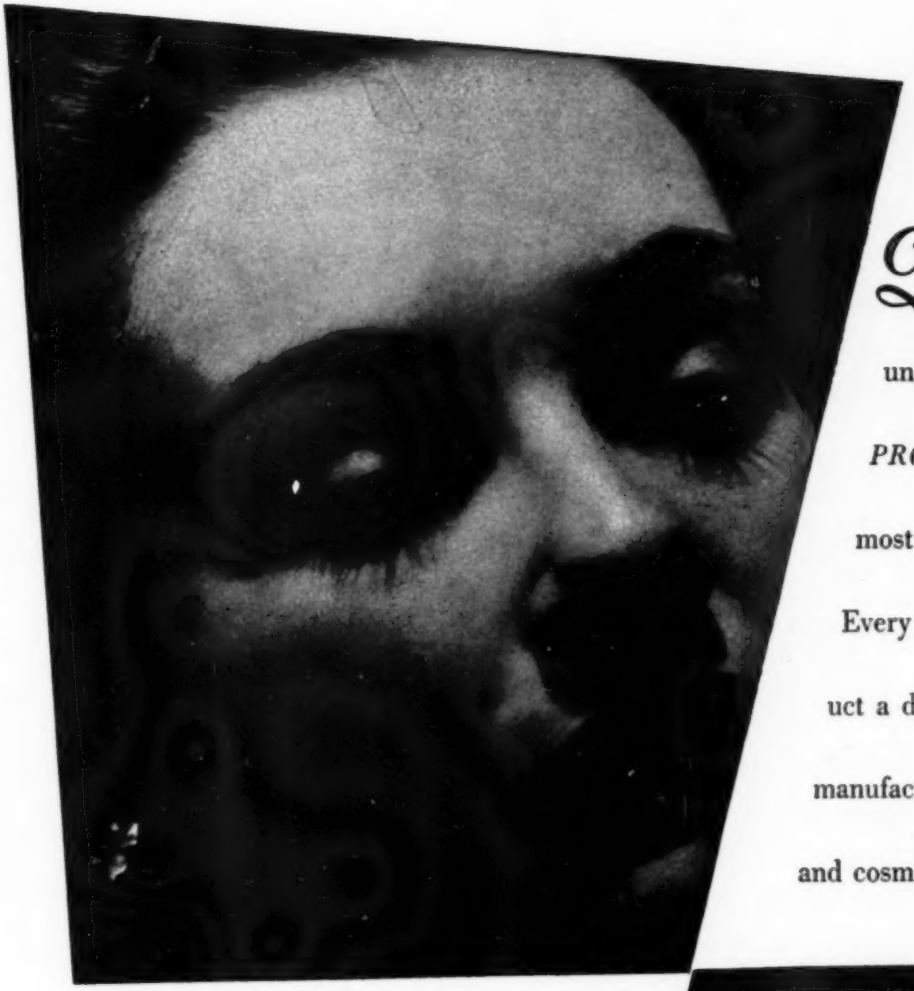

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Essential oils were first distilled in the East – the West developed this ancient art into a tremendous, scientific industry. Penick has long been a leader in this modern industry.

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**QUALITY** – N.F., U.S.P., Penick Standards—every product bearing the name Penick is the purest modern science can deliver.

**SERVICE** – Penick—primary distillers and producers offer the *complete line* of Essential Oils and Aromatic Chemicals.

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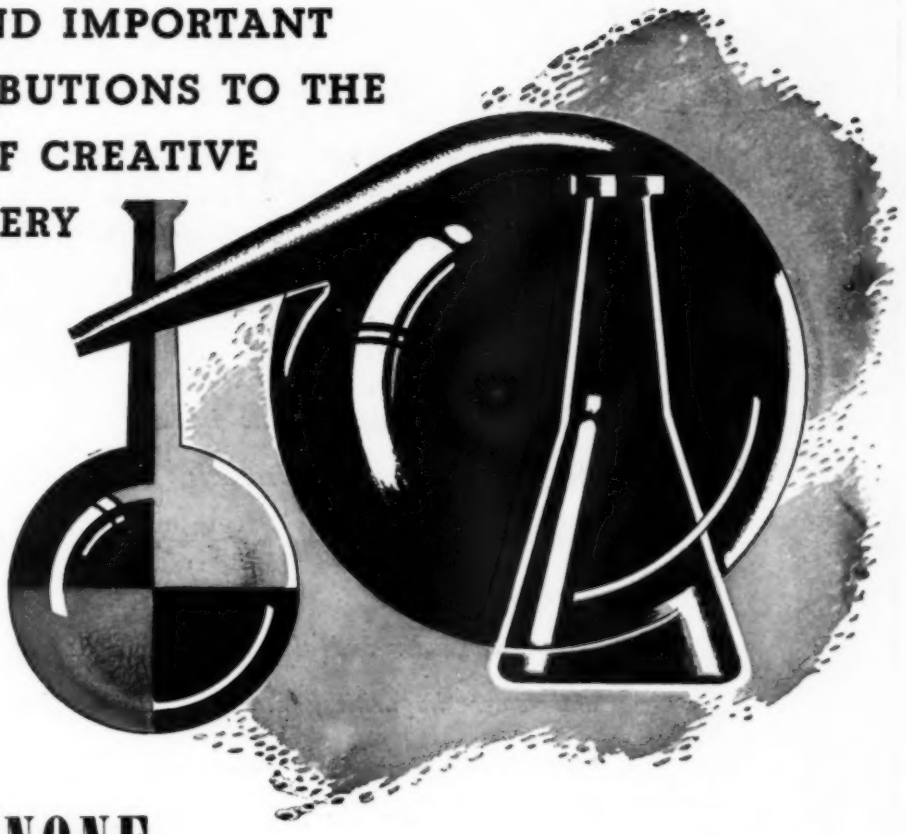
**NEW AND IMPORTANT CONTRIBUTIONS TO THE FIELD OF CREATIVE PERFUMERY**



# GELSENONE

**12.00 lb.**

A NEW aromatic chemical with the true, waxy note of natural Jasmin. Recommended for use in all compounds where a fine Jasmin effect is desired. Suggested use 5%-10%. Extremely stable with important fixative qualities.

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A NEW aromatic chemical of the sesquiterpene series, characterized by a rich, opulent, woody note of extraordinary tenacity. Levantone possesses the fragrant note of precious oriental woods, quite unlike santalol, vetiverol, etc., although it does blend well with these widely used aromatic products. For new distinctive effects in modern compositions use from 7%-12%.

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*The cold permanent wave industry, both in the beauty and cosmetic branches, find their requirements most eminently satisfied by the Stanton products.*

*By color, odor and absence of injurious salts and other impurities, Stanton's thioglycolates have won an enviable position in the field of cold waving. We are the largest manufacturers of ammonium thioglycolate in the world as substantiated by figures we have filed with a branch of the Federal Government, and it is expected that the sodium thioglycolate now available, will soon occupy a comparable position.*

*Free samples are available upon request.*

**STANTON LABORATORIES, INC.**
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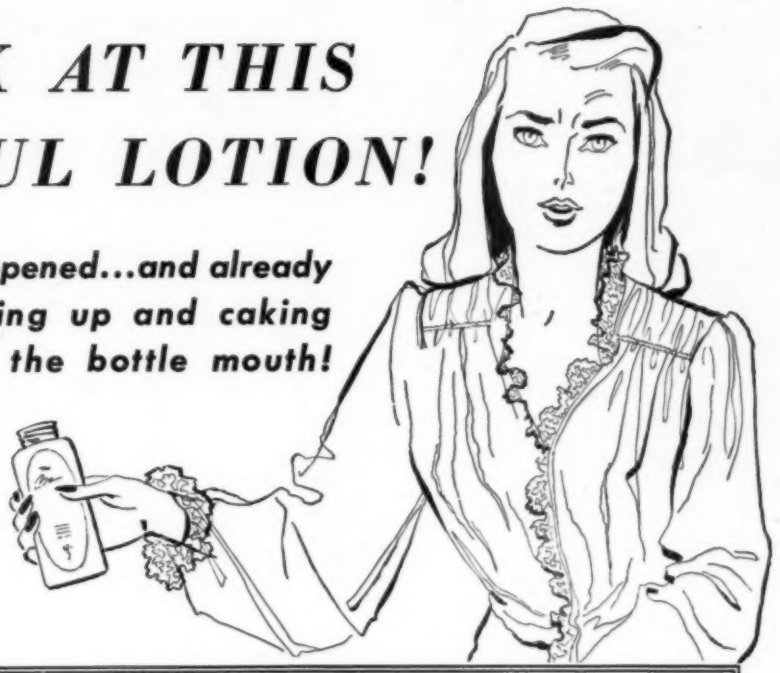
**Western Distributors: McNerney Chemical Corporation**
**2800 East 11th Street**
**Los Angeles, California**

# *LOOK AT THIS AWFUL LOTION!*

***Hardly opened...and already it's drying up and caking around the bottle mouth!***



**Give your product adequate protection from caking . . . safeguard its creaminess with Kraystay, the versatile vegetable stabilizer Kraft makes from carrageenin**

In hand lotions, the gradual evaporation of moisture often causes undesirable caking and loss of "spreadability."

Don't let your product dry out! Protect it with Kraystay. Besides being an excellent base for lotions, Kraystay effectively slows the rate of evaporation. It forms a film over the top of the product—a film so thin it's unnoticeable. But there it is, sealing the product air-tight. Needed moisture is retained, creaminess and "spreadability" assured.

***A finer stabilizer . . . with many uses***

By varying the proportions, Kraystay will show unusual stabilizing, emulsifying, thickening, suspending or gelling properties in cosmetics and pharmaceuticals of medium or low acidity.

Kraystay 16-8 is an excellent base for lotions, creams or pastes. When you add potassium chloride, it retains high gel strength at temperatures up to 240° F. Kraystay 16-14 combines low viscosity with gel strength.

To find out more about Kraystay, call or write Kraft today. Kraft Foods Company, Dept. DC-14, 500 Peshtigo Court, Chicago 90, Ill.

**NEW! NEW!** Two new additions to the Kraft line of quality stabilizers:
KRAFT BLUE LABEL EDIBLE ALGIN
KRAFT BLUE LABEL NON-EDIBLE ALGIN

**GELOSE FROM THE SEA!** The clear, pure vegetable gelose used in making Kraystay comes from these minute fronds of edible Irish moss. Taken from the cold ocean floor, they form the basis of this consistently efficient stabilizer whose uniform high quality is guarded by modern, scientific laboratory controls.

# KRAYSTAY

**MADE BY KRAFT**

**A NEW DEVELOPMENT IN VEGETABLE STABILIZERS**

is it possible to give all our proprietaries the same taste or odor — a sort of flavor or odor trade-mark?
can you develop a non-irritating, low-cost odor-modifying vehicle for our cod liver oil ointment?
can you give our milk of magnesia an inviting fruit flavor?
can you formulate a flavor that will both mask the odor of our vitamin preparations and add pleasing taste as well?

# when it's a problem in flavor or fragrance... count on MM&R for the right answer!

In today's growingly competitive market, more and more manufacturers are re-examining their products with an eye to flavor or odor improvement. In their search for ways and means to make their products *taste* better, or *smell* better . . . and thus *sell* better . . . they have a powerful ally in MAGNUS, MABEE & REYNARD, INC.

One of the world's great suppliers of Essential Oils, Perfume Oils and Concentrated Flavors, MM&R has had more than 53 years of specialized experience in creating individualized flavor or odor personalities for the products of sixty-seven industries!

No matter what *your* problem . . . no matter what your *budget* . . . the facilities of our modern laboratories, the services of our skilled technicians are available to you without obligation. Call on MM&R now . . . and *count* on MM&R for the right answer!

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FROM SHAMPOOS

TO FUNGICIDES

# *Nothing takes the place of Glycerine*

From head to toe . . . whatever pharmaceutical or cosmetic you compound . . . the chances are, it contains U.S.P. glycerine. Because . . .

**Glycerine is safe.** It's edible and wholesome. It can be applied to any part of the body—even to the most delicate membranes.

**Glycerine is versatile.** It absorbs as much as its own weight of moisture from the air. It dissolves many substances not soluble in water. It's almost as sweet as sugar. It's soluble in water. It has a high boiling point.

**Glycerine is dependable.** It's a definite chemical compound . . . furnished in grades that meet rigid standards. You can be sure that the glycerine you use will do precisely what you want it to do.

That's why—for familiar preparations . . . for compounds still in the experimental stage—*Nothing takes the place of glycerine!*

**GLYCERINE PRODUCERS' ASSOCIATION**
295 Madison Avenue
NEW YORK 17, N. Y.

## *Technical* GLYCERINE NEWS

**CLEANS AND LUBRICATES HAIR.** Non-creamy, mildly lubricating, and effectively cleaning oil shampoos are described in a recent article in a leading publication. A typical formula contains mineral oil, sulphonated castor oil, perfume, preservative, water and glycerine. (D-7)

★ ★ ★

**SULFATHIAZOLE NOSE DROPS** are made with dl-desoxyephedrine hydrochloride, sodium sulfathiazole sesquihydrate, thiourea, water, and glycerine according to a formula published recently in a standard scientific journal. (D-8)

★ ★ ★

**AN IMPROVED AURAL ANALGESIC,** described in a recent formulary, contains antipyrine, chlorobutanol, benzocaine, and glycerine. In this compound, glycerine acts as an active component and as a vehicle for the other medicaments. (D-9)

★ ★ ★

**CURARE-LIKE GLYCERINE DERIVATIVES.** Compounds which have physiological properties similar to curare are described as ethers of glycerine. (The most effective is said to be glycerol alpha-ortho-tolyl ether.) The compounds are claimed to be non-toxic and easy to prepare. (D-10)

★ ★ ★

**READY FOR GOLF?** Golfers preparing for the first game of the season are advised by a leading pro to rub their hands with a mixture of glycerine, tannic acid, and alcohol.

GLYCERINE PRODUCERS' ASSOCIATION, DEPT. 11
295 MADISON AVENUE
NEW YORK 17, N. Y.

I should like to know the source of those items appearing in Technical Glycerine News which I have checked below.

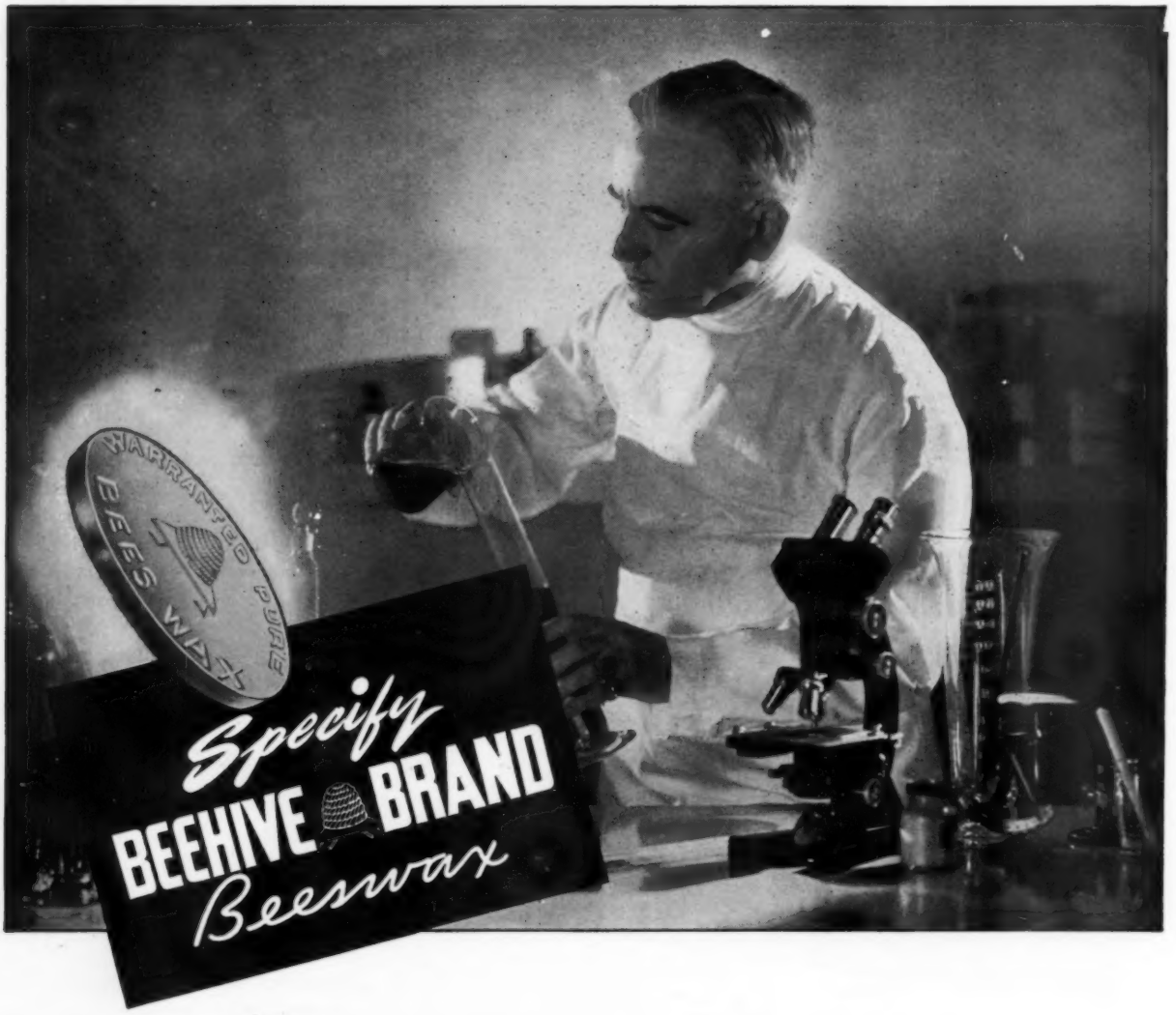
☐ D-7 ☐ D-8 ☐ D-9 ☐ D-10

NAME.....

COMPANY.....

ADDRESS.....

# For More Stable Emulsions




Carefully refined and bleached from the world's finest grades of crude beeswax, Beehive Brand Beeswax is chemically tested for purity and quality. It is valuable especially in cosmetic creams, toilet preparations, pomades and ointments where stable emulsions of fine texture and attractive appearance are desirable.

Practical experience proves that Beehive Brand Beeswax is more economical in the long run because it consistently produces emulsions that are stable and reliable under varying conditions of storage. We strongly recommend the use of the pure wax, though we are prepared to fill orders for beeswax compounds or synthetics, adjusted to the requirements of any manufacturer.

*Write today for folder giving complete information.*

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**Candle Co., Inc.**

Syracuse, N. Y. Est. 1855

Spermaceti Ceresine Red Oil Yellow Beeswax
Composition Waxes Stearic Acid Hydistear

# A 4TH Size Has Been Added To . . .

# HOOKER ALUMINUM CHLORIDE

In addition to the three popular sizes in which Hooker Aluminum Chloride anhydrous has been available, it is now being supplied in an extra fine grind.

Now you can get this catalyst in the size which is most effective for your particular reaction.

- **EXTRA FINE GRIND**—An unscreened material, 90 to 95% passing 40 mesh.
- **FINE GRIND**—An unscreened material practically all passing 20 mesh.
- **COARSE GRIND**—An unscreened material 1 mesh and finer, containing 25% to 35% finer than 20 mesh.
- **COARSE SCREENED**—Same as coarse grind but screened to remove 20 mesh and finer.

All sizes are of the same high purity—particularly free from iron and other non sublimables—and every shipment conforms to exact Hooker specifications. For smooth reactions—in Friedel Crafts syntheses, polymerization, isomerization and halogenation—select Hooker Aluminum Chloride, Anhydrous.

**HOOKER RESEARCH PRESENTS**

**SODIUM TRIFLUOROACETATE**

$CF_3COONa$

Molecular wt. ..... 136.02

Purity ..... 98%

Hooker Sodium Trifluoroacetate, another in the growing list of Hooker fluoride derivatives, is a white, non-corrosive free flowing powder. It is very soluble in water, soluble in ethanol, methanol and methyl ethyl ketone, slightly soluble in ether and insoluble in benzene, carbon tetrachloride and perchloroethylene. It is resistant to hydrolysis, not being attacked by aqueous alkali at the boiling point. Physical and chemical properties of sodium trifluoroacetate indicate its use as an intermediate in the preparation of herbicides, insecticides and dyestuffs; as a condensing agent. For organic synthesis, sodium trifluoroacetate is generally converted to the acid and enters into many interesting and promising reactions.

Technical Data Sheet No. 377 gives additional physical and chemical characteristics and indicates typical reactions. It is available when requested on your business letterhead.

Research samples in the size you want, and Technical Data Sheet 714 will be sent when requested on your business letterhead.

**Specifications:**

**HOOKER ALUMINUM CHLORIDE, ANHYDROUS**

Appearance: Grayish crystalline solid.

ANALYSIS:

$AlCl_3$, Min. ..... 98.5%

Fe, Max. ..... 0.05%

Non-sublimables in air at 950°C, Max. .. 1.5%

*From the Salt of the Earth*

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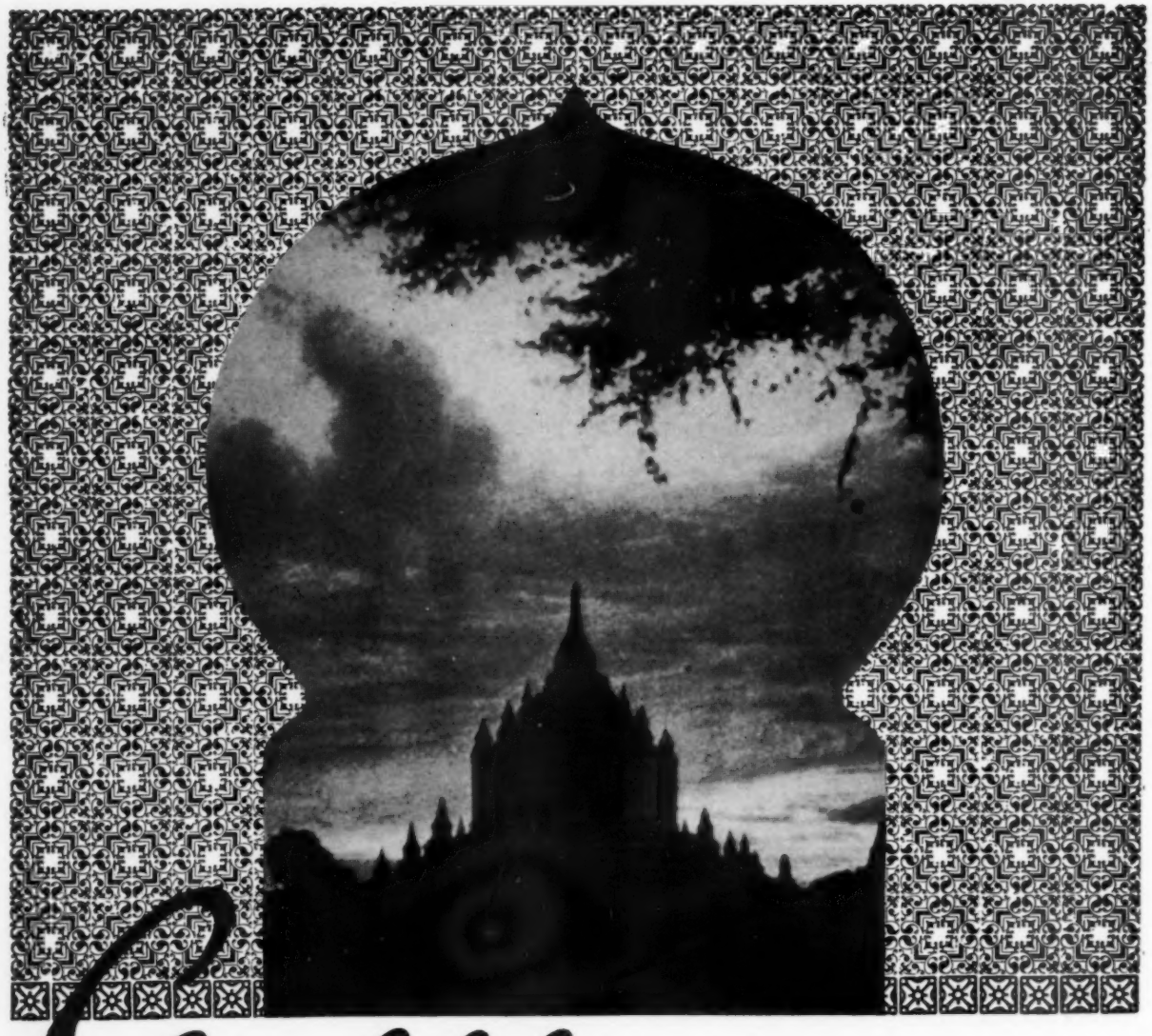

# Shalfleur

**The exotic bouquet of the Orient—imparting a rare, lasting fragrance of the Far East. Ideal for fine perfumery, powders, etc.**

***Write today on your business letterhead for a generous free sample***

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Florasynth Labs. (Canada) Ltd.—Montreal • Toronto • Vancouver • Winnipeg  Florasynth Laboratorios de Mexico S. A.—Mexico City

# *A few Hints on what is NEW...*

**1.** **Poly-galacto-xylose** (Promulsin) makes hair "plastic" by fixing its gel over the keratin layer.

It is used in:

★ hair tonics & fixatives
★ wave setting lotions
★ hair gloss preparations

**2.** **The breaking of many creams** is due to wrong interfacial tension factors. Estax 37 (a poly-oxy-ethylene ester) added in 2.5-3% largely removes that danger. A stable cream should have the right nonionic emulsifying (Estax) base. Technical advice is available free on the use of the many Estax Esters in cream and ointment manufacture.

**3.** **A good Perfume depends on the right fixative.** Thousands of gallons of blended perfumes are of poor quality and "cheap" character, because they lack the quality touch. The perfection of French blends is due to the correct choice of fixative. Watford's range of fixatives is used extensively by leading French houses to secure the intensely sweet oriental note that "sells" perfume.

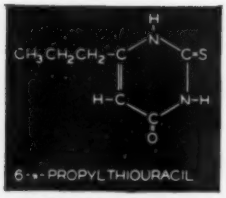
**4.** **Pharmaceutical Chemicals** now available:-
Ephedrine Hydrochloride:- (supplies excellent); Calciferol & Ergosterol:- (supplies steady); Acetarsone & Pentamethylene tetrazol:- (supplies still slow but catching up).

## WATFORD CHEMICAL CORPORATION

25 WEST 44TH STREET, NEW YORK

Telephone: VAnderbilt 6-0171

# PROPYLTHIOURACIL FOR THYROTOXICOSIS




Propylthiouracil (6-n Propylthiouracil) is a notable addition to thyrotoxicosis therapy. Propylthiouracil has proved to be as effective as Thiouracil on far lower dosage levels and it does not exhibit the undesirable side effects of the related compound. In addition, it is well tolerated by patients previously exhibiting sensitivity to Thiouracil. For more complete information about Propylthiouracil, write for Calco Technical Bulletin No. 720.

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**(powder, crystal and micro crystal)**
**Sodium Sulfathiazole U.S.P.**
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**Dicumarol**
**Folic Acid**
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**Mandelic Acid N.F.**
**Calcium Mandelate U.S.P.**
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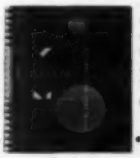

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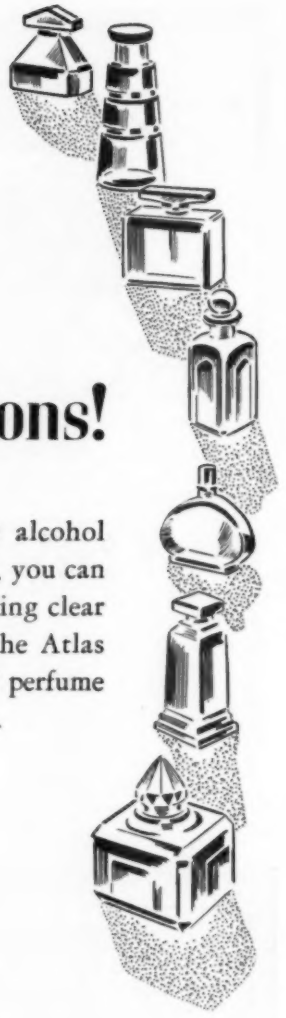

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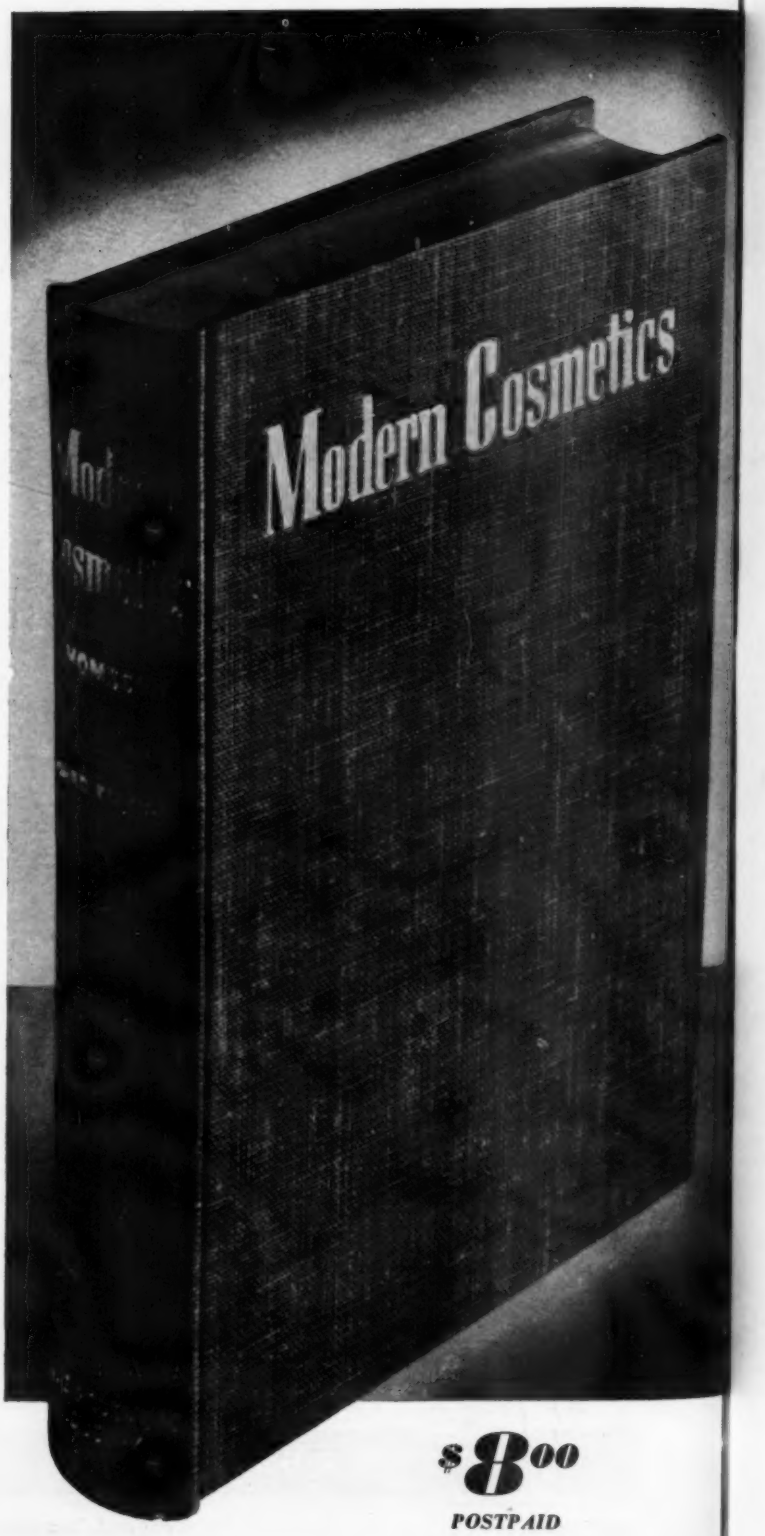


MODERN COSMETICS, published by the Drug & Cosmetic Industry, was the first book on the formulation and manufacturing procedure of cosmetics to be published in America. It was an immediate success. In two previous editions eight thousand copies were sold in America and in forty-two foreign countries.

The Second Edition of MODERN COSMETICS has been out of print for three years. During that time we have received more that a thousand inquiries for this work. But rather than bring out a hurry-up job to meet the urgent demand we decided to wait.

E. G. Thomssen, B.S., A.M., Ph.D., Chemical Consultant, Author of "Soap Making Manual," "Modern Soap Making," and well known contributor to Technical literature, was engaged to completely re-write this new Third Edition—to bring to it all the new developments of the past ten years in manufacturing instructions, materials, and formulas.

To those who have made MODERN COSMETICS their handbook we say—this new edition will be infinitely more useful to you, because of the scope of new material, new tested formulas, and the correction and modernization of the procedure in formulation.

Chemist, factory manager, perfumer, owner—anyone interested in cosmetics will find MODERN COSMETICS a valuable help in business. It is a technical book, filled with formulas, procedure, manufacturing practices, yet so clearly and simply written that even one not connected with the industry can understand its text.

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To those who wish to procure MODERN COSMETICS, to the newcomers in the industry, we say—here is a book that, because of its completeness, the simple and easily followed instructions, the clearness with which every problem and every phase of cosmetic manufacture is discussed, the authority of a standard work, is well worth its weight in gold to you. For with it, you have a firm, thorough understanding of cosmetic manufacturing.

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# KEEPING POSTED

### The Dentifrice Excitement

FROM where we sit, it looks as though the top dentifrice manufacturers of this country have been thrown into a panic by magazine articles concerning a dentifrice containing dibasic ammonium phosphate and urea as active ingredients, and the public response to these articles and to advertising of a manufacturer of this type of product. Manufacturers in this industry saw Wildroot Cream Oil Hair Tonic shoot to number one place in the market with a new formula which no one considered bothering about. They also saw Toni become the outstanding leader in the home permanent wave field while others stood idly by while the job was done right under their noses. They also saw Kay-Daumit win a commanding lead in the cream shampoo business. They are not going to let this happen in dentifrices if they can help it.

However, it seems that they are going after something that may never develop, or at least something that has not yet been proven. There is still much to be proven before these products will be viewed as proper replacements for the dentifrices that have long been in use. Anyone who thinks that a dentifrice is going to stop tooth decay, or any other serious mouth disorder is just barking up the wrong tree. However, the merchandising of these products will probably get the public excited with the result that more dentifrices will be sold over a certain period of time than would otherwise have been sold. Likewise a campaign of this sort will probably result in people generally giving more thought to the use of dentifrices with a resultant increase in sales that should benefit all makers to some extent.

Since all of the ammoniated dentifrices, but one, are in powder form, it appears that for a time at least the ratio of paste dentifrice use over powder dentifrice use of about 10 to 1, will be lowered.

Not all formulas of these ammoniated tooth powders are the same, nor are they all licensed by the University of Illinois. The University of Illinois merely has a patent application pending and as yet no patent has been granted. Some of the dentifrices are based upon work done by others than those responsible for the University of Illinois work.

The question of prior rights and the granting of basic patents might not be so simple as some imagine. However, those who have obtained licenses under the University of Illinois rights—whatever they may prove to be—probably are buying insurance so that if such a patent is granted to the University, they will be on the safe side. Also there can be no doubt that the statement on the label that the product is licensed by the University of Illinois will create a favorable impression on a large number of people buying the products.

Manufacturers well know that in a situation in which products are successfully launched on the basis of claims which may later be disproven, one or more of the products might carve out a nice slice of the market for itself and maintain this position even though the claims which made it possible are long since discontinued. Flavor, after-taste, and a feeling of cleanliness after use, are the things which sell dentifrices. We have heard this preference expressed regarding one of the new ammoniated powders. Several people have told us that this certain ammoniated powder leaves a more pleasant taste in the mouth than any other product they have ever used. They also said that it gave them a feeling of mouth cleanliness that lasted for many hours during the day. Incidently, the powder mentioned was not one of the products licensed by the University of Illinois.

We are not of the opinion that anything startling has occurred in the possible effects of dentifrices on the teeth. Even if the claims of these new type products are supported, people will still have to change their habits of using dentifrices if they are to derive any benefit. If the claims are supported, the sale of these products might increase and might be maintained at a relatively high level. But we do not think that the public for all the enthusiasm they might exhibit in buying these products, is going to derive any great benefit because they will not use them in the proper manner to obtain this benefit. If strong claims are advertised, the people are going to think that the protection to be afforded by the product is automatic and can be obtained even though the product is used at any old time and on any old way.

### New FDA Penicillin Regulations

THE Food and Drug Administration announces that it will issue new regulations by the end of this month designed to encourage greater use of oral penicillin preparations as opposed to preparations for parenteral use.

## T.G.A. Seeks Cosmetic Export Change

THE Toilet Goods Association states that it will continue to seek an amendment to the Federal Food, Drug, and Cosmetic Act to prevent exportation of cosmetics whose sale has been forbidden in the United States. The Association states that reports indicate that certain products withdrawn from the market here either voluntarily or through government action are still being exported to foreign countries. Through action of its board of directors, the Association is on record as opposing exportation of products unfit for sale in the United States or legally banned from sale in this country.

The Association has conducted a very complete study of the situation which arose last year when certain types of nail polish bases were found to damage the nails of consumers. "This led to widespread publicity harmful not only to the manufacturers of nail polish base coats but to the entire industry," says S. L. Mayham, executive vice-president of the Association. "At least seven medical journals carried reports of the damage caused by these base coats and sensational news items in the daily press gave the matter widespread publicity. In some cases the publicity apparently confused the base coats, which were the only products containing the harmful ingredient, with nail polishes, and caused fear in the minds of consumers and of course, damage to the manufacturers of harmful polishes.

"The Toilet Goods Association acted at once and discovered that the offending products contained two ingredients never before used in cosmetics. The Association immediately brought the matter to the attention of the Food and Drug Administration and assisted various dermatologists by furnishing them information relative to the composition of the product and arranging for them to be supplied with both the finished product containing the harmful ingredients and those formulated with harmless products. It warned its members of the danger of these products and cooperated with members of the industry and with the government in attempting to get all offending merchandise off the market.

"The Association invites inquiries from manufacturers, members of the medical profession and writers for the press, magazines and radio, as well as members of the consuming public, with respect to the safety and purity of all types of cosmetic products and will at times use its best efforts to insure the complete harmlessness of the products in the cosmetic industry."

## Some Trade-Mark Decisions

ESTROGENIC substance and nikethamide useful for supplying deficiency of hormones and as a restorative in cases of shock have the same descriptive properties as vitamin compositions, according to the Commissioner of Patents. The Commissioner therefore held that the mark "Therapules" of Novocol Chemical Manufacturing Co. was confusingly similar to Thera-Vita of Wm. R. Warner & Co.

A perfumed toilet preparation for cleansing the hair, imparting luster to it and keeping it well-groomed and in place was held by the Commissioner of Patents not to have the same descriptive properties as an antiseptic liniment. The decision held that the trade-mark "Brace" is not confusingly similar to "Bracine."

In an action by Scholl Manufacturing Co. vs. Aid-Oil Drugs, Zindex was held not confusingly similar to "Solvex."

## Color Television in Surgery

UNDER sponsorship of Smith, Kline & French Laboratories, surgical operations were recently televised in natural color for the first time at the Hospital of the University of Pennsylvania before members of the press, medical students and the hospital staff. The development enables large groups of students to study, at close range in full color detail, surgical techniques and medical procedures which now can be so viewed by only a few students at a time. Following this similar demonstrations were given on three days at the convention of the American Medical Association in Atlantic City. These demonstrations were given by staffs of the Medical School of the University of Pennsylvania and Atlantic City Hospital. They were carried to the Convention Hall on a closed circuit from the hospital.

## The Fragrance Foundation

THE Fragrance Foundation is the new name given to the organization which was founded recently as the Committee on the Use and Marketing of Perfume Products. Parfums Ciro President J. S. Wiedhopf, chairman of the group, reports on problems already facing the Foundation members as the result a preliminary survey by the Psychological Corporation which produced "amazing" findings. The findings indicate:

1. Fragrance products were found in a surprisingly large number of homes, indicating that the need is not for more individual customers but for increased consumption by individuals.

2. Attempts to glorify fragrance with illustrations of striking women in fabulous eveings gowns bedecked with equally fabulous jewels, and implanting the minds of the readers that perfume products were created for use on "special occasions" only have had the effect of curtailing consumption, rather than increasing it.

3. Through stressing preciousness, the industry worked itself into the position of being in the gift business to the apalling extent that 71 per cent of the colognes and toilet waters, and 84 per cent of the perfumes were in the possession of women *only* as gifts. While not wishing to undermine this gift appeal, and even desiring to increase it, the high percentage which includes shows almost complete neglect of stressing and capitalizing on the idea that fragrance products should be used every day. "Considering the fact that daily application of a moderately priced fragrance costs no more than a daily newspaper, we are ignoring a primary selling point in failing to publicize this information," says Mr. Wiedhopf. "The theory that perfume products are an expensive luxury can and must be disproved by intelligent advertising and selling on our part."

4. There is far much confusion on the part of women as to the true definition of perfume, toilet water, and cologne. Too many women believe there is little difference and that all three are interchangable.

5. There are far too many misconceptions regarding the lasting qualities of perfumes, toilet waters, and colognes. Emphasis on the lasting quality of fragrance has caused women to place too much faith in it with the result that customers are quite often dissatisfied. The need for repeated application should be stressed opening a ready-made opportunity to promote the purse container which statistics show is carried by relatively few women at all times.

Affiliated with the group, in addition to Mr. Wiedhopf, are Herman L. Brooks, president of Alexandra

de Markoff; Norman F. Dahl, vice-president of Bourjois; Bernard d'Escayrac, president of Guerlain; Jean Depres, vice-president of Coty; Pierre Harang, vice-president of Houbigant; Oscar Kolin, vice-president of Helena Rubinstein; Samuel Rubin, president of Faberge; Paul Russell, vice-president of Lucien Lelong; H. Gregory Thomas, president of Chanel.

"Perfume Products," which the Foundation seeks to promote, are defined by Mr. Wiedhopf as "all products in which fragrance is the compelling force of purchase or use."

S. L. Mayham, executive vice-president of the Toilet Goods Association, is secretary and treasurer of the Foundation, and Mrs. Miriam Gibson French, New York, is coordinator of all activities of the Foundation.

### Pepsodent Beauty Care Bureau

THE Pepsodent Division of Lever Brothers, now in the home permanent wave business with Rayve Home Permanent and Rayve Shampoo, have established at its Chicago headquarters, a service department "to provide professional guidance on individual hair care problems." Named the Beauty Care Bureau, the department is under direction of Jane Wakefield, according to W. Gardner Barker, director of new products. "Beauty Care Bureau has been established to provide professional advice on any hair care problem, regardless of whether Rayve Home Permanent or Rayve Creme Shampoo is involved," said Mr. Barker. "It is our belief that the American public has tangibly expressed its interest in hair care by spending over 250 millions of dollars annually for hair care items, and that there is a great need today for the manufacturers of these products to provide professional answers to questions arising in connection with their day-to-day use."

### U. S. Reports on Cosmetics in 1947

THE preliminary census report of the Department of Commerce for the cosmetic industry in 1947 gives a value of $371.9 million for products shipped by manufacturers during that year. Since these figures are at manufacturers levels, and the value at retail is roughly two times this amount, sales at retail for 1947 totalled approximately $744 million. DRUG AND COSMETIC INDUSTRY figure for that year was $813 million at retail, while the Toilet Goods Association figure for that same year was $682 million. Thus the Department of Commerce figure lands smack in the middle of the two figures which were available early in 1948. The Government figure is $62 million more than the T. G. A. figure, and $69 million less than the DRUG AND COSMETIC INDUSTRY figure. We have always maintained that we are the closest to the true state of affairs and we continue to so contend.

The Government figure of $371.9 million at manufacturing level for 1947 represents an increase of 152 per cent over the last Census figure taken in 1939 which stood at $147.5 million. Interesting figures given for 1947 and 1939 are: Number of establishments, 718 in 1947; 539 in 1939; average number of employees for year, 26,023 in 1947; 15,614 in 1939; total salaries and wages, $65.6 million in 1947; $ 1.7 million in 1939; average number of production and related workers for year, 18,186 in 1947; 10,363 in 1939; wages of production and related workers, 36.7 million for 1947; $9.6 million for 1939; value added by manufacture (value of shipments less cost of materials, fuel, electricity, and contract work), $226.9 million in 1947; $89.0 million in 1939; cost of materials, fuel, electricity and contract work, $145 million for 1947; $58.5 million for 1939; expenditures for new plant and equipment, $9.2 million for 1947, $1.5 million for 1939.

### Seek 100 Per Cent Alcohol Drawback

A BILL pending in Congress would return the complete tax of $9 per proof gallon to the manufacturer using the alcohol in the preparation of medicinal products. The present drawback is only $6 of the $9 paid. Under this bill the tax would have to be paid when the alcohol is bought and then recovered by the drawback system. Drug manufacturers would like to have the alcohol sold to them tax free for medicinal purposes under a permit-bond plan thus eliminating the necessity of depositing all this money with the Government until the alcohol is used. However, they are backing the drawback bill as a compromise. The Treasury Department maintains that the permit-bond tax-free alcohol plan would create enforcement difficulties and increase enforcement costs. A permit-bond plan with a $1.00 a gallon permit fee to lighten Treasury Department costs passed the House last year but died in the Senate because of Treasury Department opposition.

### A Chemical for Tuberculosis

PARA-AMINO salicylate acid, a chemical showing properties against tuberculosis, is now available in commercial quantities, according to W. G. Krummrich, general manager Monsanto Chemical Company's Organic Chemical Division. "Human and animal experiments conducted largely in Europe, but also in this country, have been encouraging although the number of clinical tests is not yet sufficient to draw positive conclusions," says Mr. Krummrich, who adds "that it seems most effective with streptomycin. With large amounts of the chemical available it will be possible to treat a great many cases and observe them over a long period of time and thus properly evaluate its efficacy."

### Physican-Owned Pharmacies

DR. ERNEST LITTLE recently stated that statistics now show in excess of 750 physician-owned clinic pharmacies, and stated that this "rapid increase in the number of physician-owned pharmacies is a source of real concern to all who are interested in the highest possible quality of pharmaceutical practice." While describing as "regrettable and unfair" the fact that the physician receives a financial profit to which he is not entitled, at the expense of the pharmacist, Dr. Little gave "even more serious consequences" as 1. Almost certain deterioration of pharmaceutical service; 2. development of a practice which may be very properly be referred to as monopolistic; 3. denying the patient a free choice of pharmacist; and 4. worsening of the relationships existing between the professions of medicine and pharmacy. "In some instances prescriptions received by clinic pharmacists are coded in such manner as to make their compounding possible only in the clinic pharmacy," says Dr. Little.

### Members Flock to Fair Trade Council

WITH fair trade under fire from several directions, 28 well-known business concerns have joined the American Fair Trade Council, evidencing the intention of those interested in maintaining fair trade legislation to join forces in resisting these attacks. New members from this industry include, Coty, Inc., Bourjois, Inc., Charles of the Ritz Distributors Corp., Parfums Ciro, Inc., Hudnut Sales Co., Inc., Wm. R. Warner & Co., Conti Products Corp., Yardley & Co., the Mennen Company, Siroil Laboratories, Inc., and the Chichester Chemical Co.

### Preventive Cosmetology

"PREVENTION of skin aging in men as well as women through preventive cosmetology, rather than through mere decoration is the way in which cosmetics can make the greatest contribution to the health and happiness of the public," Dr. H. C. Crafton Jr., of the Morton Manufacturing Co., Lynchburg, Va., told the Virginia Blue Ridge Section of the American Chemical Society last month.

"After all," he explained, "a youthful or truly healthful skin with normal function can hardly be more beautiful. Obviously, we should learn to keep it that way. The use of cosmetics as protective agents against the brutalities of the weather and environment is certainly soundly based, but has not yet been emphasized or carried nearly far enough.

"Full potentialities and proper role of cosmetics have scarcely been realized," he said, "adding that normal healthy skin possesses qualities of light reflectance so remarkable as to be a continual source of inspiration to artists, noting that skin color varies in intensity from one area to another, and even in a given area because of varying emotional states.

"This condition increases one's attractiveness or self-advertising value," he said, "Therefore, it may not be sound cosmetology to cover normal skin with heavily pigmented preparations, whereas the cosmetic use of pigments on areas of more or less fixed intensity—lips, nails and hair are examples—seems entirely sound.

"The problem is to find a way to improve unhealthy and aging skin. Claims for so-called nourishing creams must be viewed with doubt since they are based on the assumption that unhealthy skin is deficient in blood supply near the surface, that wrinkles are caused by atrophy of subcutaneous tissues, and that this can be corrected by local application of rejuvenating substances. There is definite evidence that some vitamins, hormones, drugs and essential oils are absorbed through the skin," he said, "but whether a definite local effect can be produced without causing a general effect throughout the body has not yet been established.

"Although it is obvious that exposure speeds the aging of the skin," he said, "little or nothing of a truly scientific nature is known about the aging process. Emollient creams can check aging by keeping the outer corneous layer soft and supple and preventing chapping and windburn which not only hasten the aging process but increase danger of bacterial infection," he added. "The real importance of sunscreens and sunburn preventive preparations is not yet fully realized," said Dr. Craton, "although this is one phase of the general problem which is not so 'grossly lacking' in available scientific information.

"Moderate exposure of the human organism to sunlight is generally considered beneficial," Dr. Crafton reported. "Some authorities disagree and point to indications that fresh air, mental relaxation, and so forth are really the important factors in certain conditions of improved health often attributed to sunlight. However, it is not denied that excessive exposure leads to detrimental results varying from a condition of general irritability and depression to inflammatory conditions of the skin which may become septic.

"There are effective chemical sunscreens to protect the skin against damage from the sun's ultraviolet rays, and also there are numerous germicidal and fungicidal agents which can be used in cosmetics to combat these factors in premature skin aging satisfactorily. Protection from windburn, chapping, dehydration, and the like can also be obtained to some extent through application of heavy creams and greasy ointments but these are not sufficiently appealing.

"It is in this regard that we must look to future scientific developments for new materials and new preparations which will more satisfactorily meet all of these requirements—a single, esthetically appealing preparation offering effective protection against sunburn, infection, windburn, chapping, dehydration, and so forth," he declared.

### T.G.A. Scientific Activities

THE Scientific Section of the Toilet Goods Association, which celebrated its fifth anniversary last Fall, continues to grow in membership, now standing at well over 500 scientists, reports Harold D. Goulden, Director of Scientific Research and Standards of the Toilet Goods Association. Mr. Goulden also reports that in addition to T. G. A. Standards thus far drafted by the Scientific Advisory Committee and issued by the Board of Standards, the Committee has under consideration a standard for sodium carboxymethylcellulose. During the past year standards were issued lanolin, methylcellulose, thioglycollic acid, and ammonium thioglycolate. In a review of all the standards issued, the committee decided that revision of ten of the standards was deemed advisable. These are: Mineral oil, glycerine, borax, boric acid, petrolatum, petroleum wax crystalline, petroleum wax micro-crystalline, precipitated chalk, propylene glycol, magnesium carbonate.

With regard to the world literature search arranged for by the Toilet Goods Association some time ago with Dr. Howard W. Haggard, director of the Laboratory of Applied Physiology of Yale University, Mr. Goulden described the scope of the search as follows:

"They will critically review and abstract literature on skin irritation, including the epithelium of the mouth, as induced by toilet preparations and soaps. They will also critically review and abstract the literature as to the irritating effects of approximately 1,200 specific raw materials used in the manufacture of toilet preparations and soaps. The results of this research will be published in a monograph which will be available to all. The first section of the monograph will deal with the very latest information on the anatomy and physiology of the skin. A section will be devoted to a discussion of allergy, irritation and sensitivity. Another section will deal with literature on irritation caused by finished products followed by a section dealing with the literature on irritation caused by raw materials. There will, of course be included a complete bibliography. The literature will be covered up to the time of going to press.

"The search is a tremendous undertaking," says Mr. Goulden, who adds that "Seven individuals have been working on this search for some 19 months, and have some 3,000 abstracts."

### Liquor Pricing in New York

FAIR trade pricing of liquors in New York State under the Alcoholic Beverage Control Act was recently declared invalid by the Appellate Division but is being appealed to the Court of Appeals which is the State's highest court. Under the New York A. B. C. law the Alcoholic Control Board could, in its discretion, make price fixing of liquors at retail mandatory, based upon the Board's opinion whether or not such action would result in more temperate use of liquors. The court said that this was a delegation of power and the question of whether or not compulsory price fixing was desirable should have been decided by the legislature. Under the decision the authority of the A. B. C. Board over prices is abolished and price fixing of liquors is no longer mandatory. However, liquor distillers, distributors, and importers who still want to fix the retail prices on their products can do so under the Feld-Crawford Act, which is the New York State Fair Trade Act. The decision on liquors had nothing to do with the basic question of fair trade.

### FDA Renames Divisions

THE Food and Drug Administration has changed the name of the Penicillin and Immunology Division to the Division of Antibiotics, and the Division of Vitamins to the Division of Nutrition.

### Drug Exports and the Federal Law

AMENDMENT of the export provisions of the Federal Food, Drug, and Cosmetic Act is of extreme importance not only to manufacturers of drugs and pharmaceuticals, but also to the makers of chemicals and other raw materials, which are used in the preparation of drugs and pharmaceuticals. When export sales of medicinal chemicals and other raw materials fall off, manufacturers of these products find that domestic business also declines. This is not due to a falling off in the domestic consumption of drugs and pharmaceuticals, but to the fact that domestic manufacturers are not using these products to the same extent because their foreign business has likewise declined.

There is no valid reason why this country should unduly hamper its manufacturers of drugs and pharmaceuticals in their foreign business. The manufacturers in this country should be allowed to ship to foreign countries the preparations that these countries prefer for the diseases and the condition found in those countries. As we have previously stated the medical profession in this country has no right to attempt to dictate to the medical professions in other countries what these should use and how the preparations which they use should be labeled.

Unfortunately in this country, the medical profession has charge of the products which are included in the U. S. Pharmacopoeia. Thus we find right in our own backyard, organized medicine, dominated by those who are active in organizational affairs, deleting from successive Pharmacopoeias preparations which are still widely used by a large part of the profession which spends its time actually treating the common ills of the people of the country. How is this group—which does not even recognize what the profession in its own country wants and is using, be expected to look with favor on the medical professions of foreign countries and their desires? They do not even know the diseases and the conditions which face these foreign practitioners, yet they look down their noses at these foreign professional men and indicate that the medical profession in this country is the only one that knows anything. Maybe this is supposed to impress the people of the foreign countries to the extent that the ones with enough money will come to this country for treatment.

This matter of exports of medicinal products has often been a political football and it still is. The late Mayor LaGuardia of New York once held up exports of medicinals being shipped from the Port of New York for the sole purpose of gaining publicity as the protector of women and children not only in New York City and the United States of America, but everywhere in the world. This action of the Little Flower's caused the Food and Drug Administration quite some pique at the time, but now the FDA itself has taken up the torch for some reason or other.

There is no one in this country—in or out of the drug and pharmaceutical manufacturing industry—who wants to ship from these shores products that are in any way harmful. However, our opinions regarding what should and what should not be used in medical practice and for self-medication, and how these products should be labeled and distributed, should not be forced down the throats of foreign countries who know perfectly well what they want. And if they can't get these things from this country they are going to get them elsewhere, and they may or may not be made from our materials.

### Hungary Making Penicillin

HUNGARY now has its own penicillin factory and soon expects to be able to meet its internal demand and thus stop imports of the drug from this country. This will help Hungary conserve hard money.

### Drug Sales to Dip 14 Per Cent

A DIP of 14 per cent in sales of drugs at retail for the balance of 1949 is forecast by McKesson & Robbins' Vice-president in Charge of Sales, Charles T. Lipscomb based on a sales trend survey conducted for his company by the Econometric Institute. Mr. Lipscomb feels that the drop will affect every retail druggist since McK. & R. sales are almost exclusively to independent druggists and closely reflect consumer trends. He advises druggists to employ aggressive selling of products other than drugs as an answer to this decrease. Among the types of merchandise suggested by Mr. Lipscomb are photographic supplies, nylon hosiery of which more than 4 million pairs would be sold through drug stores in the coming year, ball point pens, stationery, clocks, and watches. He also recommended stressing baby supplies.

### A One-Cent Sales on Pants

THE Liggett Drug "One-Cent Sales" has had great influence in its time, but we were quite amazed last month to notice that the idea had been adopted for selling men's clothing. Sa-rays, with a store in Manhattan and one in Brooklyn, advertised "men's 100 percent tropical slacks, first quality at $6.98 per pair, with two pairs for $6.99. The value of one pair of slacks was given as $12.98, but unlike the drug store sales, the customer was limited to only one set.

# T. G. A. MEETING 1949

STATUS AND FUTURE OF THE COSMETIC BUSINESS, AMERICAN MEDICAL ASSOCIATION ATTEMPT TO CONTROL COSMETICS, THE F. T. C. FAIR TRADE PRACTICE RULES, AND OTHER IMPORTANT SUBJECTS GIVE THE T. G. A. SOMETHING TO TALK ABOUT.

Charles A. Pennock

Stephen Mayham

Hugo Mock

ATTENDANCE at the annual meeting of the Toilet Goods Association, held May 17, 18, 19, at the Waldorf-Astoria, again soared to a new record. The extremely interesting sessions were well attended.

President Charles A. Pennock named three "specific factors which will have very favorable influence on the industry: 1. An increase of 17,120,000 people in the country over 1939, representing an entirely new market greater in size and potential than the New York metropolitan area. 2. In 1939, 30 million people were in the income group of under $2,000 annually, 11 million received between $2,000 and $5,000 annually, and only 1 million received over $5,000. Today, only 15 million are in the $2,000 class, 25 million are $2,000 to $5,000 class, and 9 million are in the over $5,000 class. 3. Women employed number 4 million more than in 1939.

Mr. Pennock said that no saturation point for cosmetics is in sight. He was disturbed and annoyed by the fact that annual per capita consumption of alcohol is $58; of tobacco $41; and of toilet preparations, only $8. In commenting on scientific and consumer research, Mr. Pennock pointed out that women are constantly seeking something new and that the industry thrives on new ideas and new products. He cited as examples: 1. In ten years shampoos have increased from $15 million to over $50 million at retail; 2. In ten years deodorants have jumped from $5 million to $25 million; 3. Home permanent waves have skyrocketed in five years from less than $3 million to nearly $40 million. The reason for these increases is they were "new ideas, new services to the consumer and the market was ripe for them."

"There's plenty of business to be had, but can it be gotten at a profit?" asked Mr. Pennock, who continued, "Statements show earnings of many firms in our industry at a dangerously low point. Some are showing red figures, even in the face of large volume. We all know that the cost of merchandise has been climbing higher and still higher over the past few years. The danger signal is flying, warning us to examine our overall operations carefully in order to bring about a sound operation at a satisfactory profit.

"True, there has been a decline in the cost of some raw materials, particularly essential oils, but generally speaking our costs of materials are still out of line with our retail selling prices. I don't think we can wait for some things to happen. We must make them happen, and I think the time has come to call in our suppliers. Talk to them realistically, seriously. Persuade them to examine their own costs and make them see that our future is their future."

Association Executive Vice-president Stephen L. Mayham dwelt at considerable length on the recent activities of the American Medical Association in cosmetics which has resulted in the establishment of an AMA Committee on Cosmetics which offers a seal of approval to cosmetics "that meet the rules of the committee." "In other words," said Mr. Mayham,

"the AMA is now going to decide what cosmetics are good and what cosmetics are not good, bestowing a seal of merit on those which are good, and withholding the seal of merit from those which are not good. Thus the AMA sets itself up as the ultimate authority on what cosmetics women should use. I think the AMA is no better equipped to set itself up as an authority on cosmetics than it is to set itself up as an authority on automboiles, straw hats or Scotch whiskey! Certainly none of its work or activities in the past has indicated any competence in this particular field. Further, in my opinion, there is no reason why the AMA should undertake the rating or grading of cosmetics. There are many other things for which it is far better equipped and to which it should first direct its attention.

"Two very competent and active governmental bodies already regulate the sale, promotion and advertising of cosmetics. We have from time to time had differences with both these bodies but no one can doubt either their competence or their sincerity, and there is no reason to believe that any thought of commercial advantage could possibly enter into any of the decisions of either the Food and Drug Administration or the Federal Trade Commission. Unfortunately, and I really mean unfortunately, the same thing cannot truthfully be said with respect to the AMA. That organization operates one of the most successful publishing businesses in the United States. I do not charge that it uses its Acceptance Seal to advance the commercial interest of the publications but it has seemed at times that advertising in its publications has been a matter of primary concern to its Chicago management.

"I should like to quote to you a couple of paragraphs from an editorial in the April issue of DRUG AND COSMETIC INDUSTRY. The editors of DRUG AND COSMETIC INDUSTRY have for many years observed closely the activities of the AMA in all the fields into which it has intruded itself. The following two paragraphs represent the editors' considered and competent opinion regarding the entry of the AMA into the field of cosmetics:

" 'Cosmetic manufacturers might as well face the fact that the AMA is going to make an all-out effort to extend its control into the cosmetic field. There is no valid reason why the cosmetic manufacturers should allow themselves to be bulldozed by this Chicago group into helping to build up a censorship over its products by organized medicine. Manufacturers who use and advertise the seal of this committee for competitive advantages will only be putting their own heads—and those of their competitors—in a vise.

" 'There is no need for any such unauthorized censorship for cosmetics. The Food and Drug Administration has full authority over the formulation and labeling of cosmetics through the Food, Drug, and Cosmetic Act, and the Federal Trade Commission has full authority over advertising of cosmetics through the Wheeler-Lea amendment to the Federal Trade Commission Act. As far as the Committee on Pharmacy and Chemistry of the AMA is concerned, this is a body which can render a service to manufacturers of new drug products in certifying these products as useful before they are recognized in the official compendia. However, even this service has been greatly minimized by the new drug provisions of the Food, Drug, and Cosmetic Act, and by inclusion in the U. S. P. of patented specialties. But so far as cosmetics are concerned, the AMA has nothing to offer manufacturers' and cooperation with them in the activities of the Committee on Cosmetics would only benefit the AMA and would work to the detriment of cosmetic manufacturers.'

"I do not at this time urge that all manufacturers of cosmetics should refuse to cooperate with the AMA Committee on Cosmetics. I am quite willing to concede that in the case of certain companies making special products which are on the borderline of the medical field since these companies must maintain constant contact with the medical profession, consultation with the Committee might be advantageous. Even these manufacturers, however, should consider carefully both the advantages and disadvantages of any course of cooperation with the AMA they decide to adopt.

"To cosmetic manufacturers who are not engaged in the production of what might be called semi-medical cosmetics, my advice is that they study the operation of the Committee on Cosmetics and its make-up most carefully before they decide to approach the Committee for approval of their products.

"I would point out at this time that none of the fine dermatologists who have done extensive work in the cosmetic field are included in the personnel of the Committee. I would point out further that there is no representation on the Committee by anyone connected with the cosmetic industry and that in fact, there is no real expert on cosmetics on the Committee. In my opinion, unless and until the Committee is reorganized so that it includes some of the very fine scientists and physicians who are familiar with cosmetics, and until it has proven that it proposes to work only along scientific lines for the improvement of cosmetics, and the education of the medical profession on their usefullness, it would be a serious mistake for any manufacturer to provide the Committee with the sort of information it is demanding. To do so would indeed place the heads of those companies in a very tight vise.

"The slight commercial advantages that might accrue to a company from having its preparations recommended to doctors through the pages of the medical press would, I feel, certainly be offset by the control over the nature of its business which the company securing the seal, would suffer. The sort of cooperation which the AMA apparently proposes is so one-sided that it could not, in my opinion, assist the manufacturer or the consumer of cosmetic products. I am afraid that all that will be accomplished under the present program will be the further glorification of the Chicago headquarters of the AMA and some additional revenue to the journals under its control, of little or no value

to the medical profession and the public, and of great capacity of harm to the manufacturers."

With regard to the contemplated fair trade practice rules to be promulgated by the Federal Trade Commission, Association Counsel Hugo Mock said:

"The proposed rules cannot in any event go beyond the law, whether it is the Robinson-Patman Act, the Clayton Act, or any other legislation now forming part of our statutes. It has always been my conviction that the proposed rules might be somewhat milder than an attempt to enforce the Robinson-Patman law without the benefit of rules, because in that case the enforcement would be in the hands of the trial division of the Federal Trade Commission who would be guided purely by the text of such decisions of the Federal Courts which throw some light upon the question of the meaning of 'proportionately equal terms.' You may be sure if there is no code, the law division of the Federal Trade Commission will try and enforce the Robinson-Patman Act slanted toward their views, not yours."

Mr. Mock said that there is a general impression that the Federal Trade Commission has construed the meaning of the words "proportionately equal terms" in only a single case or, which he said is erroneous. Beside the Elizabeth Arden case, Mr. Mock cited the case of Luxor Ltd., decided July 31, 1940; American Crayon case, decided in 1940; the Lambert Pharmacal Company case, decided in 1940; the Binney & Smith Company case, decided in 1940, the C. F. Sauer Company case, decided in 1941, and the Curtiss Candy Company case, decided 1947. Mr. Mock suggested that it will be better for the industry to have a guide in the trade practice rules if and when issued, which will be less severe and perhaps milder than a reliance upon merely adjudicated cases.

Mr. Mock offered the following ideas on the subject of trade practice rules:

"1. There has been much discussion and some worry among manufacturers in this industry as to the ability of the retail druggist to deliver something of value for what he gets in the way of advertising, advertising material, etc. The argument has been continuously made that even if a demonstrator in a department store cost 10% to 20% of sales, there is a consideration for the expense assumed by the manufacturer. What the manufacturer properly fears is that he will not get the same value and cooperation for additional concessions to the drug retailer that he gets from the department store. However, I want to point out that whether this is so or not, if the manufacturer tries to meet the provisions of the Robinson-Patman law and it matters not whether it be by way of furnishing demonstrators or advertising material or buying display space or window space and it matters not whether the retailer proportionately gives the same service as the department store, it still must be reckoned as an additional cost of doing business, that is, it operates as an additional discount from list prices. Can the manufacturer in this industry afford to raise his average costs in this fashion, and still make a profit? I repeat, this is the nub of the whole situation.

"You will agree that if the drug retailer does not give you the same kind of equivalent for what he gets similar to what the department store furnishes in increased sales, additional expense which you are put to, will be profitless and an impossible additional burden upon your selling costs. Many of you argue, rightly or wrongly, that the retail druggist is already getting all he is entitled to, but the courts and the Federal Trade Commission have flatly rejected that argument in the Arden case. So many of your important units in this industry are faced with this question and you cannot blink it. Can you afford to add a certain fairly large percentage to your present selling costs in a large part of your distribution and still survive? And I want to remind you that this troublesome question will appear in exactly the form I have mentioned whether you have no code or rules, whether the rules as announced will be mild or in your estimation tough, there is the problem which stares you in the face and cannot be ignored.

"2. If and when issued, the rules are not going to have that precision and clearness which you seek, they are going to be indefinite, but they certainly will not be any more indefinite than the rules already proposed and published by the Commission, so you should prepare your plans now in cooperation with your lawyers as to how you are going to operate under these rules.

"3. You have a right to say that I have no experience in the cosmetic business, but it seems to me that the nub of the situation is, are you going to give more discount to the retail druggist or less discount to the department store—and somewhere, sometime you have to make a decision on this highly important issue,

"4. As far as I have delved into the law, any concern which restricts itself to a consignment or *del credere* policy, is not subject to the rules as it has no customers but only agents. This policy however has the possible disadvantage of requiring every manufacturer who uses it to qualify under the laws of every state where he does business.

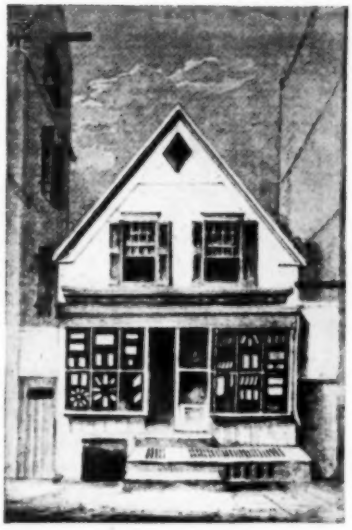
"5. By all means try and prepare an all-inclusive formula which you can use with all customers, whether it is the largest department store or the smallest druggist. In this connection, a short quotation from the Elizabeth Arden case (Federal Trade Commission v. Elizabeth Arden, 156 Fed. 2d 132 is in order.

" 'Petitioners did not furnish any demonstrator service to the remaining 90 per cent of their customers who purchased 60 per cent of their total sales. Petitioners' terms were designed to be ineffectual to enable this large segment of their customers to receive the minimum quantity of demonstrator service, for petitioners were well aware when they established them that all but a few could not qualify, and they tailored them to accomplish the exclusion The terms which precluded 90 per cent of petitioner's customers from being accord-

(*Continued on page 773*)

# LEHN & FINK'S DIAMOND JUBILEE

By HILDA C. FARRELL



WITH just pride in its achievement, Lehn & Fink, Inc., reviews three quarters of a century since the establishment of the firm . . . seventy-five years of healthy, steady growth, during which time many innovations have been made, and in which course of development many inspirations have become realities. Keeping in close step with its progress have been the expansions of manufacturies, the increase of personnel, and the institution of promotional programs for which Lehn & Fink has become as renowned as it is for the variety and quality of its products.

For the past twenty-eight years, Edward Plaut, as president of Lehn & Fink, has been the dynamic imaginative and executive power behind this progress. A concise, modest man, Mr. Plaut has become one of the most highly respected figures in the industry, in this country and abroad . . . a man quick to recognize opportunities, and adept in putting them into profitable motion.

Mr. Plaut's ingenious industrial talents are by no means accidental. A graduate of Princeton University, he received his doctorate in chemistry at Columbia University. Thus equipped, he joined Lehn & Fink as assistant to the president, Joseph Plaut, his uncle. Albert Plaut, who was Edward's father and predecessor of Joseph Plaut as president of the concern, recently had died.

The younger Mr. Plaut opened avenues for expansion in various departments, introducing campaigns of advertising one after another with amazing rapidity, and with remarkable success. Within six years he was prepared to assume the presidency of Lehn & Fink when, upon his retirement from that office, Joseph Plaut became chairman of the board.

Lehn & Fink, Inc., now a distinguished producer of specialties and therapeutic agents, was of humble origin, starting as a wholesale concern dealing in botanicals, and fine and medicinal chemicals. It was largely a one-man institution, operated by Mr. F. W. Fink.

Mr. Fink realized the fulfillment of a dream, six years old, when on May 1, 1874, he crossed the threshold of the small loft building located at 160 William Street in lower Manhattan to establish his own place of business. His friend, Louis Lehn, a Brooklyn retailer, and another special partner, had made it possible for Mr. Fink to operate by financing the scheme. Mr. Lehn knew full well that his investment was sound. He had watched and appraised Mr. Fink's performance during his six years' association with other wholesale houses. He was impressed as were many others, with the astute business methods, the knowledge of the markets, and the buying and selling acumen of his new partner, who alone must handle the exchange of merchandise.

The first afternoon of Lehn & Fink's establishment brought nine customers, friends of Mr. Fink. Many more soon were to follow. It was not long before Mr. Fink was looked upon as a consultant in his field, prominent for his good judgment and common sense, and considered an authority on raw materials and the markets.

Acting as sales manager, promotion director, buyer, and advertising agent, Mr. Fink applied himself day and night, steadily realizing returns upon the original capital invested.

Also, it was not long before Mr. Fink needed assistance. His travels for purposes of studying the markets, buying and promoting, left him little time for selling . . . and still sales continued to increase phenomenally.

A staff soon was gathered together, consisting of a few well chosen salesmen who were trained on Sunday mornings by Mr. Fink to practice the methods of selling which he himself endorsed. These methods were radically advanced for the late Victorian period, whose people were accustomed to the hawking of medicine men and itinerant pitchmen. The methods to which Mr. Fink subscribed were as simple as they were effective. Within ten years sales had flourished from nothing to five hundred thousand dollars a year.

By 1884, Albert Plaut, William J. Gesell and Robert R. Lampa had become associated with the firm, then located at 128 William Street where better accomodations could be provided for its expansion and for the display of its merchandise. In 1886, Albert's brother, Joseph Plaut, joined them. With these younger executives showing exceptional inventive talents and industrial energy, Mr. Fink laid the plans to seek national recognition. With a colorful display of essential oils, botanicals, drugs and chemicals, all arranged in cut glass bottles and jars, he astounded the American Pharmaceutical Association's convention in Milwaukee. Many of the exhibits never before had been seen in this country. Cocaine, phenacetin, antipyrin, pilocarpine, vanillin, coumarin, and many other European processed chemicals introduced to the American market by Lehn & Fink, caught the interest of retailers and manufacturers, creating the foundation for national distribution.

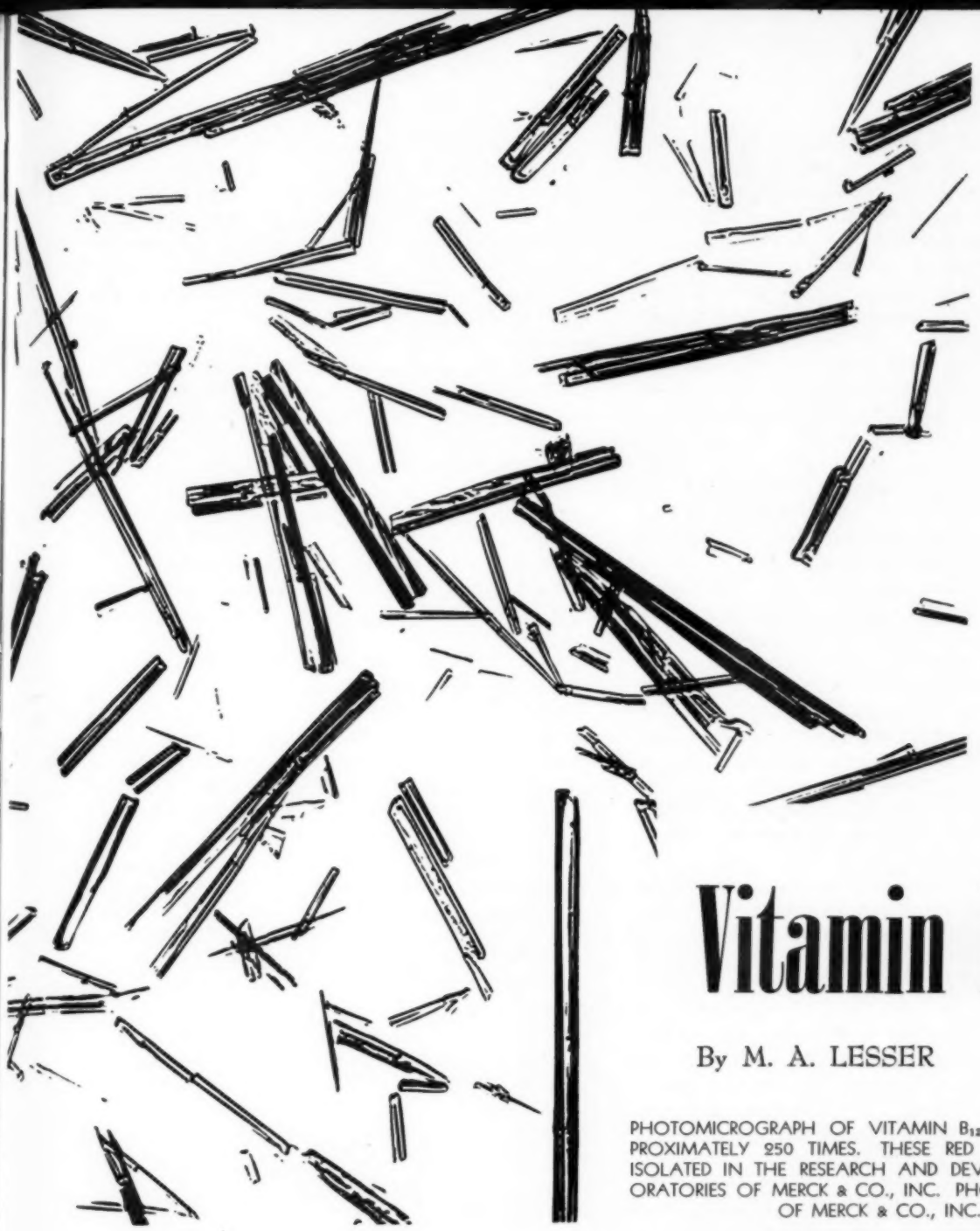
Contact was established in Europe in 1889, when Mr. Fink seized the opportunity presented by the Paris Exposition to survey conditions abroad with an eye for more extensive and more economical buying. While he was in Grasse, he bought a crop of violets, superior to the English flowers then known to the American consumers, and successfully introduced them here for use in sachets. Although the price of the Grasse violets was almost exorbitant, a fine profit was gained by their sale, packaged in small containers. Mr. Fink's visit to Europe led to broader vistas in the importation area, and to a wider distribution, here, of the products with which the name of the company had become a byword.

The first to introduce dyphtheria antitoxin in New York, Lehn & Fink received favorable recognition during the epidemic that swept the city during that same year. The serum was hurried through tedious port regulations delays by Mr. Fink himself, supported by a delegation of physicians, all eager to test the therapeutic effect of the vaccine upon the city's afflicted children. This was an act of mercy . . . as Mr. Fink freely donated the serum as far as it went to the doctors who requested it.

Albert and Joseph Plaut, meanwhile, had become as brilliant in the cognizance of the business as they were ambitious, and with the policies they had absorbed from Mr. Fink's rigorous training, in their own right they had become responsible for tremendous prosperity in the growing concern. In 1898, the ownership and control of the business was transferred to the two brothers, and Mr. Fink went into comfortable retirement.

A disastrous fire during the winter of 1901 swept out the entire stock of the company, and temporary quarters expediently were set up on Beekman Street.

*(Continued on page 779)*



# Vitamin $B_{12}$

By M. A. LESSER

PHOTOMICROGRAPH OF VITAMIN $B_{12}$ ENLARGED APPROXIMATELY 250 TIMES. THESE RED CRYSTALS WERE ISOLATED IN THE RESEARCH AND DEVELOPMENT LABORATORIES OF MERCK & CO., INC. PHOTOS COURTESY OF MERCK & CO., INC.

IT IS JUST a little over a year ago that the discovery of vitamin $B_{12}$ was announced to the scientific world. In the April 16, 1948 issue of *Science*, Rickes and his associates,[1] Shorb,[2] and West[3] reported the isolation of and tests on this newest member of the vitamin B complex. After considerable painstaking effort, a red crystalline substance had been obtained from large quantities of liver. Further studies indicated that this material was very probably the active principle in liver responsible for removing pernicious anemia from the list of inevitably fatal diseases. Until the advent of liver treatment, this disease took an annual toll of more than 50,000 lives in the United States alone. It is not surprising, therefore, that the discovery of vitamin $B_{12}$ has been described[4] as the outstanding development in the vitamin field during 1948.

The discovery of vitamin $B_{12}$ was not one of those fortunate scientific accidents. Rather it was the culmination of some twenty-two years of intensive searching. This search began in 1926 when the findings of Minot and Murphy[5] led to the conclusion that an anti-pernicious anemia factor exists in liver. From then on, chemists all over the world concentrated their attention on attempts to isolate this active principle. Liver was ground up, treated with water and other solvents, filtered, precipitated, extracted, dialyzed and otherwise fractionated into numerous parts. Each of these liver fractions—and there were thousands of

them—could be evaluated by only one procedure. This consisted of actual clinical trial on patients with pernicious anemia. This lack of a simple, accurate test was the primary factors in the slow progress of research on the many liver fractions.[6]

By 1945 a large number of highly concentrated liver preparations had been developed and were being used successfully in the clinical treatment of pernicious anemia. In that year, however, Spies and his colleagues[7] found that folic acid, which occurs in liver, restores the blood to normal in cases of pernicious anemia. It was then suggested that this might be the long-sought active principle. This belief could not be maintained when it was shown that folic acid, unlike active liver extracts, failed to prevent the neurological complications of pernicious anemia. Indeed, some workers claimed that it appeared to precipitate these neurological symptoms in certain patients.[8]

In 1946, interest was aroused by the observation[9] that thymine (5-methyl uracil), an entirely different chemical compound, was capable of producing a blood response in persons with certain types of anemia. Despite the fact that thymine, like folic acid, promoted blood regeneration, it did not protect the nervous system from degeneration.[10] Nonetheless, both folic acid and thymine are effective in treating tropical sprue and nutritional macrocytic anemia. However, thymine is not considered[11] a practical therapeutic substance because of the large doses required as compared to folic acid.

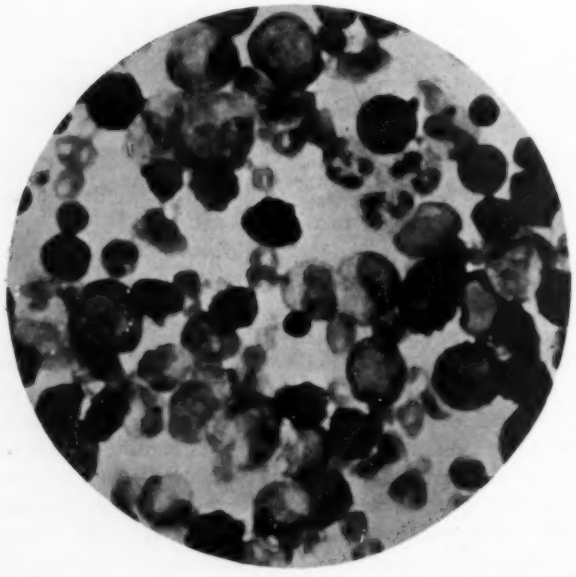
Now, after more than two decades of search, it does seem as if the anti-pernicious anemia principle of liver has been discovered. There is marked unanimity of opinion and growing evidence that the crystalline substance isolated by Rickes and his coworkers[1] at the Merck Research Laboratories in New Jersey is the long-sought factor. As was pointed out in an editorial[12] in the *British Medical Journal*, it is a definite chemical entity; it is active in doses of a few micrograms; and it apparently controls all the lesions of pernicious anemia.

Vitamin $B_{12}$ crystallizes in the form of small red needles. A heat-stable compound, it was found that the crystals darken to black at about 210 to 220°C, but do not liquefy below 300°C. Later, following spectrographic studies, it was found[13] that cobalt is present in the molecule. Hence, it appears that vitamin $B_{12}$ is a cobalt coordination complex. The red color of the vitamin seems to be associated with its cobalt—complex character. Spectrographic examination also showed the presence of phosphorus and nitrogen. Tests for sulfur were negative. Autoclaving an aqueous solution of vitamin $B_{12}$ did not change the biological activity. However, dilute solutions of sodium hydroxide and hydrochloric acid did cause inactivation of the compound.

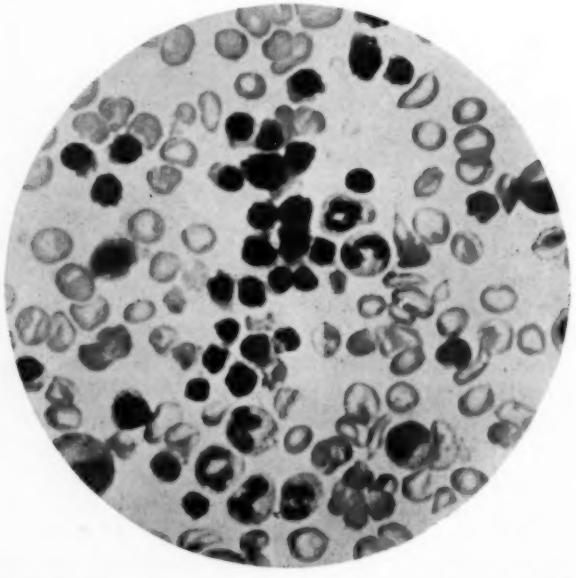
It is pointed out in this more recent report that the cobalt-complex nature of vitamin $B_{12}$ is an outstanding property of the compound. It is also noted that the presence of cobalt in vitamin $B_{12}$ reflects significantly upon the many studies which have shown that cobalt is an essential trace element in nutrition. Also noteworthy are observations which indicate that trace amounts of cobalt may play a significant role in the therapy of iron deficiency anemias.

By one of those interesting coincidencies parallel studies were being made in England. Eight days after the publication of the first American papers, Smith[14] reported in the April 24, 1948 issue of *Nature* that he had isolated two red pigments from four tons of pro-

PERNICIOUS ANEMIA BEFORE TREATMENT WITH VITAMIN $B_{12}$



SAME PATIENT NINETY HOURS AFTER A SINGLE INJECTION OF 0.025 MG. VITAMIN $B_{12}$



teolyzed liver. These amorphous products, though not as pure as the crystalline vitamin $B_{12}$ of Rickes and his associates, exhibited highly similar physical, chemical and clinical properties. As was customary, the material was tested on a number of patients with pernicious anemia. These trials revealed that the amorphous material was effective, not only in stimulating blood regeneration, but also in the treatment of three cases subacute combined degeneration of the spinal cord associated with pernicious anemia.

It is generally appreciated that one of the great advantages on the part of the American investigators was the availability of a highly indicative microbiological test based on the use of a suitable organism. The progress of their work was materially hastened by Shorb's[15] observation that *Lactobacillus lactis*, Dorner required a substance, called the LLD factor, which was found in purified liver extracts, and in concentrations which paralleled the anti-pernicious anemia activity of the extracts. Indeed, it was suggested that LLD factor and the therapeutically active principle in liver extract were identical.

By using this method, the American workers were able to dispense with the necessity for clinical tests which are laborious and not sufficiently sensitive for quantitative investigations. Thus, by using the microbiological test method, Shorb[2] was able to determine that the crystalline substance isolated by Rickes and his associates was an extremely active material. Comparisons with standard liver extract indicated that vitamin $B_{12}$ was the compound either wholly or partically responsible for the LLD activity of the extract. The minute amount of material required in these tests places vitamin $B_{12}$ among the most potent microbiologically active compounds.

Vitamin $B_{12}$ is many times more active than liver extract. Thus, as compared to an arbitrarily selected standard liver concentrate having an assigned potency of 1,000 LLD per milligram, vitamin $B_{12}$ has a potency of about 11,000,000 LLD units per milligram.[2] The high activity is further indicated by the fact that when given to patients with pernicious anemia in doses of 3 to 6 micrograms, vitamin $B_{12}$ produces a prompt increase in circulating reticulocytes, red cells and hemoglobin.[3] As a rough approximation, one microgram of vitamin $B_{12}$ corresponds to one U. S. P. injectable unit of liver extract.

In the natural course of events, the next step was a search for a better source of vitamin $B_{12}$. This would not only provide sufficient material for further clinical tests, but would also make the substance available for the treatment of pernicious anemia and other conditions where indicated. That such a search was needed is well shown by the fact that a ton of fresh raw liver is required in order to obtain the infinitesimal quantity of about 10 to 20 milligrams of crystalline vitamin $B_{12}$.[6]

Although other workers have made valuable contributions toward the discovery of new sources for active principle, the work done by the Merck group is particularly important. Rickes and his associates[16] investigated numerous animal, plant and microbial materials to find sources of vitamin $B_{12}$ other than liver. Among those which showed activity were milk powder, beef extract and culture broths of microorganisms. Among these active materials was a red crystalline compound isolated from the mold, *Streptomyces grieseus*, which belongs to the same species as that which produced the antibiotic, streptomycin. Crystals from the two sources, liver and mold, were found to be identical on the basis of the following criteria: presence of cobalt, phosphorus and nitrogen, crystalline form and refractive indices; behavior when heated; solubility in 80 per cent acetone, LLD activity, and hematopoietic effect when tested clinically in pernicious anemia.

It was readily realized that the synthesis of vitamin $B_{12}$ by the *Streptomyces* organism, in much the same manner as streptomycin and penicillin are produced, could afford a more convenient and less expensive method of obtaining the new factor. Continued effort has resulted in the successful marketing of vitamin $B_{12}$.[17]

Starting with West's[3] investigations, clinical studies with the new vitamin have been going on steadily. From the data already obtained, it is apparent that, in addition to its value in the treatment of pernicious anemia and its complications, vitamin $B_{12}$ also is useful in the therapy of nutritional macrocytic anemia and of both tropical and nontropical sprue. The published reports indicate that the new factor has exceedingly promising possibilities. It may turn out to be one of the most valuable members of the vitamin B complex.

Its superiority as an antianemic substance have been shown by the comparative studies made by spies and his associates.[18] From tests with one patient with pernicious anemia, one with nutritional macrocytic anemia and one with tropical sprue, it appears that several thousand times the weight of thymine is required to produce a response similar to that produced by folic acid and that several thousand times the weight of folic acid is required to produce a response similar to that produced by vitamin $B_{12}$. From this evidence it is quite apparent that vitamin $B_{12}$ is by far the most potent antianemic substance known.

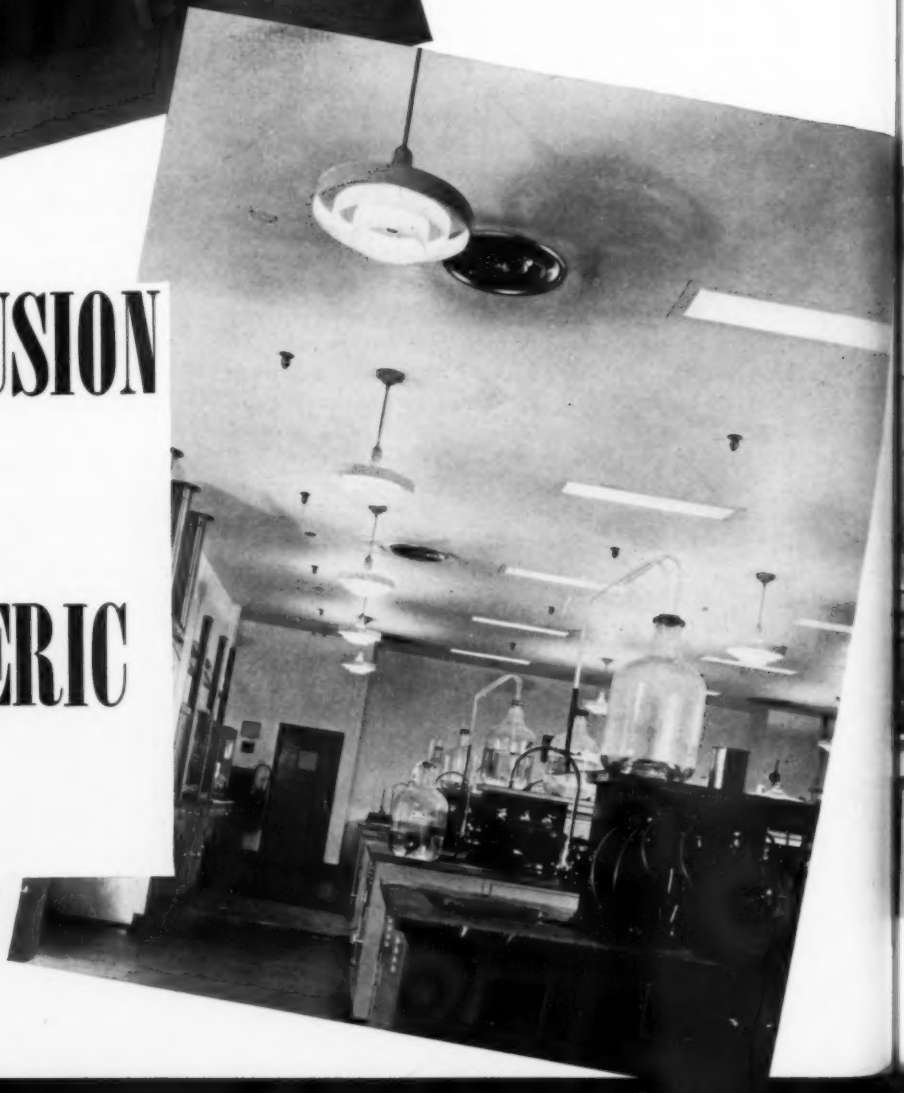
Recently, in a tentative appraisal of vitamin $B_{12}$ as a therapeutic agent, these workers[11] explained the action of the active principle as follows: "when vitamin $B_{12}$ is administered to suitable patients, under controlled conditions, reticulocytosis occurs and is followed by an increase in red blood cells, platelets and hemoglobin. A striking clinical response parallels the hemopoietic response. About the time the reticulocytes begin to rise, the patients volunteer that they feel stronger. Those whose appetites have failed have a sudden desire for food. Symptoms arising from subacute degeneration of the spinal cord in persons with pernicious anemia are benefited by the administration of vitamin $B_{12}$.

(*Continued on page 754*)

# AIR DIFFUSION IN ATMOSPHERIC CONTROL

By F. HORNERKAMP

Chief Engineer,
Anemostat Corporation
of America



CHEMISTS know the importance of temperature and humidity control as a factor in a great many activities of the pharmaceutical industry. They realize full well how air conditioning is used to regulate moisture content, rate of chemical and biochemical reactions, and rate of crystallization. Then, too, they know humidity is held at certain levels in order to eliminate the bad effects of static electricity. But—they may not be aware of the fact that the method of air diffusion can break or make any air conditioning system, bar none.

Ventilating and air conditioning experts will admit many sad and costly experiences where improper outlets have caused complete failure of an installation due to the existence of drafts, unequalized temperatures, poor humidity control, air stratification, stale air pockets, and other objectionable conditions—all of which lead to complaints and production losses.

In air conditioning any enclosure, air must be delivered in a duct at relatively high velocities. When this high velocity air leaves the small duct through an improperly designed fixture, it usually sweeps to the lower levels before mixing with room air and before its velocity is appreciably reduced. Such unsatisfactory conditions can be avoided only by reducing incoming air velocity at duct openings. Then the incoming air can be mixed with the room air well above the working area before the mixture is discharged in a controlled, draftless pattern. This means far more than merely supplying the required volume of properly conditioned air, for if the air circulates improperly—even after it leaves the ducts—temperature and humidity will vary widely throughout the room.

Wide temperature variations due to improper diffusion might seem highly improbable in an air conditioned plant where thermostats and other standard instruments of the system indicate that everything is operating properly. But, if there is the slightest suspicion of trouble in this connection, it will pay off to make a thorough check.

Often an ordinary thermometer and a psychrometer for humidity measurements will show that undesirable conditions exist. By taking readings at various points about the room, from floor to the ceiling, wide temperature and humidity differentials will be discovered quite easily. If both temperature and humidity are unequalized to any extent, a considerable variance in air velocities will usually be found throughout the conditioned enclosure. This is readily proved by noting how air movement affects a match flame, tobacco smoke or cotton fluff.

An accurate test may be made next with a thermo-anemometer, which is just another name for a thermometer anemometer. A Kata-thermometer is also satisfactory for the purpose although it is cumbersome and requires more time to operate. Perhaps the best instrument to use is the Anemotherm which is a lightweight, portable unit having a small probe capable of reading temperature, humidity and static pressure. If the tests indicate that air is being improperly distributed throughout the enclosure, the fault can often be found

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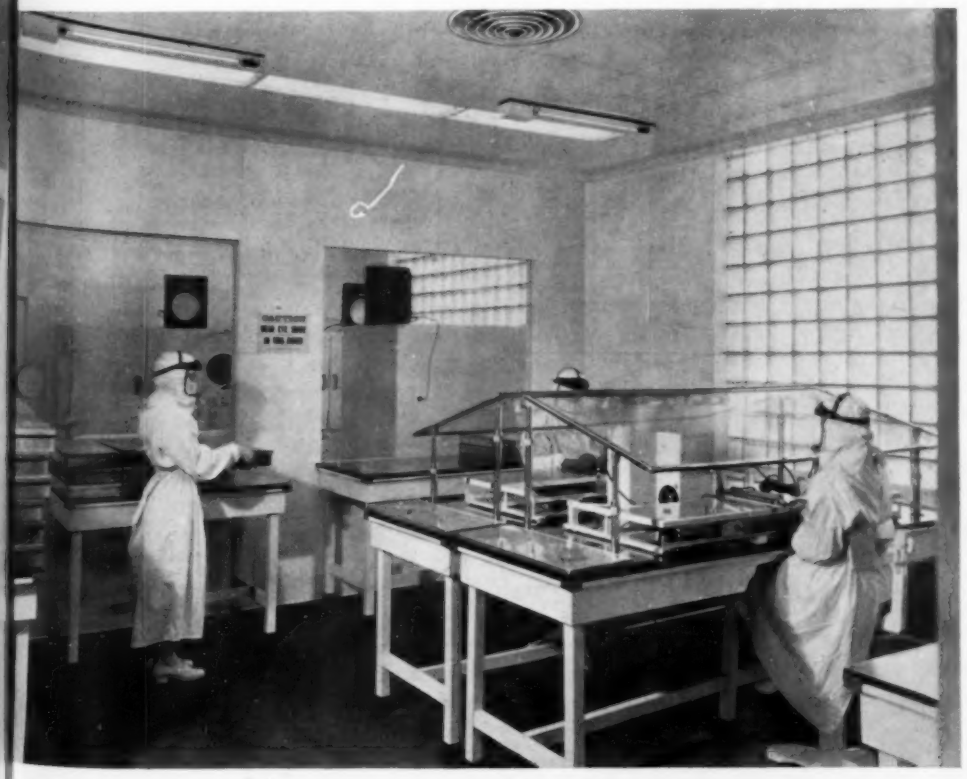


Illustrated on the opposite page are two views showing air diffusers which can be seen on ceiling as installed in Ortho Pharmaceutical Laboratory at Raritan, N. J.

The photograph on this page shows filling room of penicillin packaging department at Commercial Solvents Corporation, Terre Haute, Ind. Note flush mounted air diffusers in ceiling.

Photos courtesy Ortho Pharmaceutical Laboratory and Commercial Solvents Corporation.

# ANTACIDS

## Their Function, Formulation and Evaluation

By CHARLES FUCHS

ILLUSTRATION BETTMANN ARCHIVE

IN NORMAL individuals dilute hydrochloric acid is constantly being secreted into the stomach to provide among other things the proper medium for the preliminary digestion of proteins by the enzyme pepsin. Although the concentration of hydrochloric acid which is secreted is constant[5,19,20] the rate of secretion varies in different individuals and also may vary in the same individual from day to day. It has been shown fairly conclusively that the amount of acid secreted is affected by age, sex, environmental conditions, the food eaten and the various stimuli that a person is subjected to during each day.[6,9,39,40,47,50] Thus for each individual there is a range of acid secretion which is normal for that person, but which may be vastly different from the normal range of secretion of another person.

In many cases, however, the amount of hydrochloric acid secreted greatly exceeds the normal range and this excess gastric acidity may give rise to conditions commonly referred to as heartburn, sour stomach and acid indigestion.[5,6,50] This general condition is known as gastric hyperacidity or hyperchlorhydria.

Large numbers of people are made uncomfortable or are handicapped due to excessive gastric acidity regardless of whether or not gastric or duodenal ulcer is present. The outstanding complaint of such sufferers being usually described as a gnawing, cramping or sticking feeling appearing in the vicinity of the upper part of the abdomen one of more hours after taking food.[5,6,50] This feeling may also be accompanied by a feeling of fullness, flatulence and belching. These symptoms have been recognized since ancient times and for many centuries various remedies have been prescribed for the relief of hyperacidity. In the days of the ancient Greek civilization Pliny recommended powdered coral and Paracelsus used powdered pearls,[53] both of which of course are different forms of calcium carbonate. Cruveilhier in 1832 used milk and Von Strumpell in 1895 used a mixture of bismuth subcarbonate and sodium bicarbonate. In 1915 Sippy introduced his famous

treatment for hyperacidity consisting of mixtures of calcium and magnesium carbonates, magnesium oxide, bismuth salts and sodium bicarbonate. Roch first introduced colloidal aluminum hydroxide in 1922, then in 1936 Mutch recommended magnesium trisilicate as one of the ideal antacids; and in recent years aluminum dihydroxy aminoacetate, synthetic resins and gastric mucin have made their appearance as antacid materials.[1,25,28,31,32,53]

Naturally each newly introduced antacid material is hailed by its discoverer as being nearest the ideal for antacid therapy, but usually after a few years of use certain disadvantages crop up which were unforseen at the time of introduction. Thus, after decades of using the various antacid materials gastroenterologists have reported the advantages and disadvantages of each and have arrived at a set of properties which the ideal antacid material should meet.[16,23,29,30,34]

These properties are as follows:

### a. The Antacid Should Be of the Non-Systemic Variety

Certain chemicals react quickly and efficiently with the excess hydrochloric acid in the stomach but they form by-products which are easily absorbed into the blood stream which in turn upsets the percentage of salts present in the blood. This is known as upsetting the acid base balance of the body and may lead to a condition known as alkalosis. Alkalosis has the opposite effect of hyperacidity and may be more undesirable,[16] usually resulting in symptoms of nervousness, introspection, irritability, anoxemia, headache, nausea, vomiting, vertigo and pains in the joints. When an antacid or its byproducts is absorbed by the body fluids and so acts to produce alkalosis it is called a systemic antacid. It can therefore be seen that the ideal antacid must be of the non-systemic variety and therefore it and the by products it forms when it reacts with the gastric acids must be insoluble in the body fluids. Of course this does not preclude the use of systemic antacids if they are used with caution and not prescribed in doses large enough or often enough to cause alkalosis.

Table I characterizes some of the commonly used antacid materials with respect to this property.

**TABLE I**

**Classification of Antacids**

| *Antacid* | *Type** |
|---|---|
| Sodium bicarbonate | Systemic |
| Magneisum carbonate | Non-Systemic |
| Calcium carbonate | Non-Systemic |
| Magnesium trisilicate | Non-Systemic |
| Aluminum hydroxide | Non-Systemic |
| Magneisum oxide | Non-Systemic |
| Aluminum dihydroxyaminoacetate | Non-Systemic |
| Synthetic resins | Non-Systemic |

*Ref. 16, 31, 32, 35

From Table I it is apparent that of the commonly used antacid materials today only sodium bicarbonate is a systemic antacid and may cause alkalosis if used indiscriminately[1].

### b. No Effect on the Bowel

The ideal antacid should have no effect on the bowel, that is, it should neither be a laxative nor should it cause constipation. Table II lists the effect of the commonly used antacids with regards to his property.

**TABLE II**

**Bowel Effect of Antacid Materials**

| *Antacid* | *Bowel Effect* |
|---|---|
| Sodium bicarbonate | No effect |
| Magnesium carbonate | Laxative |
| Calcium carbonate | Constipating |
| Magneisum trisilicate | Slightly laxative |
| Magnesium oxide | Laxative |
| Aluminum hydroxide | Slightly constipating |
| Aluminum dihydroxy-aminoacetate | Slightly constipating |
| Synthetic resins | No effect |

Aside from sodium bicarbonate and the synthetic resins all of the remaining useful antacid materials affect the bowel in one way or the other. Therefore, in formulating an ideal antacid one resorts to the use of a mixture of two or more antacids in the hope that the constipating effect of one will be neutralized by the laxative effect of the other. The best that can be expected in such a procedure however, is to strike an average since no two persons will react alike to the bowel effect of such a mixture.

### c. High Neutralization Value and Rate of Action

The ideal antacid material should be of such a nature that a small amount of it will combine with a large amount of acid in the stomach. Thus a small dose will neutralize relatively large amounts of the excess gastric acidity. This property is advantageous in that it would allow the formulation of small and yet efficient tablets of antacid materials. Johnson and Duncan[23] and Holbert, Noble and Grote[22] have pointed out that having a high neutralization value of itself is not a sufficient criterion for efficiency but that one must consider the time it takes a given antacid to neutralize the excess acid in the stomach. Thus it is little comfort to the sufferer or hyperacidity to know that the antacid he is taking will neutralize most of the gastric acidity, if the antacid is slow acting and takes a long time to do so. It is apparent then that the ideal antacid will not only combine with a large amount of hydrochloric acid but will do so in a very short space of time. The more quickly it does the job of acid neutralization, the more quickly will the sufferer get relief.

Using a modified method of Johnson and Duncan[23] the neutralization values and neutralization rates of the various antacid materials were determined and are shown in Table III.

*(Continued on page 746)*

# ODOR AND OLFACTION

By PAUL G. LAUFFER*

SELLING goods is among the major activities of modern man. Once a good product has been developed, the quantity that can be manufactured and sold at a profit is generally limited only by demand. The man most likely to receive high rewards in business is the man able to build up the demand for his product. Advertisements assail our eyes and ears wherever we turn, and we necessarily build up a high degree of sales resistance in brain centers concerned with sight and sound. Odor has been less thoroughly exploited as an aid to selling, but its promise is so vast as to deserve our earnest attention.

In the toilet goods business, we have long been aware that aroma is an enticing aid to sales. We know that the shopper, unable to see any great difference between brands of cream or powder, will choose the one most pleasing to her nose. Laird pioneered in tests which showed that articles of clothing were preferentially purchased when lightly scented with a pleasant odor. So the power of odor to create demand is far from being limited to the perfumes and colognes deliberately and consciously bought by scent alone. But its use is based on empirical data, and if we could only increase our knowledge of the principles governing the production and effects of odor, it would become a tremendous factor in merchandising everything from hats to automobiles.

A comprehensive understanding of odor must be based upon fundamental knowledge of four kinds; molecular structure, classification and measurement of odor, the physiology of the olfactory system, and the psychological effects of odor. On these four pillars our theories of odor and olfaction must be built, and if the fundamental scientific basis of any pillar is weak the theory will be unsound; until each pillar is built high by careful experiment and penetrating analysis of results, the structure will never attain the dignity of an architectural masterpiece.

Experimental data on all phases of odor, and theories derived therefrom, have been excellently collected and digested by Moncrieff[1], and not even a brief recital of these facts and hypotheses can be attempted in the space of this paper. Let us consider instead some of the recent advances, the major gaps still remaining in our knowledge, and what hope we may have of filling them.

## Molecular Structure and Odor

Many chemists have racked their brains in the attempt to evolve some reasonable hypothesis for the relation of odor to structure. Bornand and Martinet[2] made the cogent remark the "The problem of odor is a particularly irritating one to the scientific mind." This is true, for the few limited generalities we can make draw us on, like a will-o-the-wisp, into the great morass of unexplained data, where we slip off the insecure footing of osmophores to sink bewildered in the quick-sand of vibrational theories.

Classical concepts of chemical structure fall short of explaining odor production, for classification of substances by their odor never does more than roughly parallel their chemical grouping, and at many points the two cross perversely. The chemically active groups cannot be singled out as the bearers of odor; amylcinnamic aldehyde smells like jasmine, not because it is an aldehyde, but because the carbonyl group, the amyl radicle, the ethylene residue and the benzene ring, all put together in a given relationship, somewhere contain a configuration of electrons or atoms which produce the jasmine odor. Any more specific explanation must also take into account the fact that jasmone, benzyl acetate, and many other compounds have similar odors. This can never be explained by comparing classical structural formulas, as they look when written in two dimensions. The answer will be obtained by analysis of the spatial configurations of odorous analogs, using the method of quantum mechanics.

A rigid derivation of structure for so complex a molecule as amylcinnamic aldehyde is probably not to be expected in the near future. When we consider that a complete determination of electron orbits has been made for only a few of the simplest molecules, the magnitude of the task is apparent. However, seven of the elements possess odor, as do some of the simpler compounds such as ammonia and methyl chloride. It is not unreasonable to hope that we shall, before long, have available complete studies of enough odorous molecules to enable us to determine what patterns of electronic orbits are necessary for production of odor, and later what patterns will produce given types of odors. Many substances can exist in any of several structures, and a structure forming a very small part of the total may be the one giving the odor.

Our complete understanding of odor production then awaits further determination of molecular structure, and the present scope of our knowledge is illustrated by the recent differences of opinion[3] over such a simple molecule as ethylene (which ten years ago was reliably stated to have a structure commonly agreed upon). Fajans[29] recognized in 1922 that forces between remote

*Chief Chemist, The George W. Luft Company, Inc.
Read before the Scientific Section of the Toilet Goods Assn., May 19, 1949.

atoms affected the structures of saturated hydrocarbons. His recent[30] "quanticule" theory of molecular structure may have interesting applications to odor theory. Whether we call this work physics or chemistry is immaterial, for what is chemistry but applied physics, once it is completely understood?

Meanwhile, we must do the best we can in correlating odor with the approximate molecular structure we now use. Theories connecting odor with one physical property or another have been numerous. Certain parallels have been found between odor and vapor tension, lipoid solubility, ultra-violet absorption, infra-red absorption, unsaturation, residual affinity, oxidizability, dipole moment, Raman spectra, etc., but, as Bornand and Martinet remarked, "A correlation is not an explanation." It is curious that one of the earliest theories, that of Ogle,[4] first propounded in 1870, and further developed by Dyson in 1928,[5] has found recent support in only slightly modified form in the work of Beck & Miles[6] in 1948.

Dyson postulated that the odorus molecule forms a loose adsorption system with protein molecules of the olfactory cells, and absorbs radiant heat energy, causing displacement of one or more electrons from their normal orbits. When these electrons return to their normal positions, energy releasd as wave motion of a definite frequency is absorbed by the sensory apparatus and leaves the system as the nervous impulse. Electron pairs of groups such as—CHO may form the mechanical system for the conversion of radiant heat energy to olfactory vibrations; when altered by the addition of another group, the frequency of the vibrations is altered.

Beck & Miles have produced evidence that the power of an odorous material to stimulate the olfactory nerve is due to its capacity to absorb infrared radiation given off by the olfactory cells. Young, Pletcher and Wright[7] however, point out that normal butyl alcohol containing heavy hydrogen has an odor identical to that of ordinary normal butyl alcohol, but a different infrared spectrum; furthermore *d*- and *l*-isomers have identical infrared spectra but sometimes differ in odor. All we can say at present is that no other property has been conclusively correlated with odor and that we do not yet know how molecular structure is connected with odor production.

Correlation of molecular structure with physiological effect has been given a tremendous amount of study in widely separated fields. All types of drugs have been intensely examined for clues to such relations. There is evidence that actual molecular dimensions, or distances between strategic atoms, are very important considerations. Thus Ing states that in acetylcholine derivatives the dimensions of the "cationic head" and the length of chain connected to it, affect very strongly the intensity of action on the parasympathetic endings. Ing[27] considers that a fairly precise fit between the drug cation and some macromolecular structure in the cell is involved in drug activity. These observations have interesting implications for our problem, and it is not impossible that the study of odors may eventually shed light on the general problem of physiological activity of chemical compounds. The nose is such a wonderfully acute detector of odorous materials, needing only about $10^{10}$ molecules of some substances to register a sensation, that determinations of this particular physiological effect are very simply and quickly made. Odorants are ideal materials for work on the structure-effect problem.

Although extensive catalogs have been made, listing many hundreds of chemical compounds and their odors, these lists are far from complete. Many chemists have reported fully and specifically on the odors of new compounds; Bogert[28] and his co-workers are to be singled out among American chemists for this reason, as well as for their contributions on the structure-odor problem. Most chemists, however, seem to look upon the odor of a new compound as one of the least important of its properties, and in many cases they fail to mention it. Abstractors almost invariably omit any mention of odor. If this Association could persuade the officials of the American Chemical Society and the editors of is journals and especially of Chemical Abstracts to include odor in the properties reported, our store of available knowledge would rapidly increase. Odors could also be much better reported by using more descriptive terms than the "pleasant" "characteristic" and "peculiar" so often given as the sole description.

### Classification and Measurement of Odor

Odors are generally described by comparison with other, better-known odors, using such terms as fruity, flowery, herbaceous, etc. We have not reached the assuredness to develop terms analogous to red or blue. Most proposed odor classifications have used comparative terms, grouping odors around familiar materials in a more or less continuous, even over-lapping series. One of the simplest and most useful systems appears to be that of Crocker and Henderson,[8] which expresses all odors in terms of their content of four components; fragrant, acid, burnt and caprylic. Numbers from one to eight express the degree to which a given material possesses each component characteristic, so that a set of four digits completely describes the odor. Boring, working with this classification, decided 2000 to 4000 odors can be distinguished by most people. Plank[9] has derived the formula for assigning a numerical designation to a mixture of two materials; in simple terms, the logarithmic average of the numbers of the components. Thus the resultant of toluene (2424) and vanillin (6021) is 6434, corresponding to diphenylmethane, a conclusion only very roughly satisfactory to this observer. This classification system, in common with all others, is concerned only with the type of odor and relative intensity of each component; it leaves unassayed that elusive but important factor, quality, which is essentially pleasantness and has a psychological content.

(*Continued on page 775*)

# DENTIFRICES

By HARRY HILFER

DENTIFRICES, though not commonly thought of as cosmetic preparations, have become increasingly important as cosmetic preparations because they are used to beautify as well as to keep the teeth healthy. Actually their almost universal use stems from their function as beautifying agents for the teeth rather than their therapeutic function as protectors against decay and caries.

Indeed, there is a good deal of argument insofar as their use as a caric preventative is concerned. The fact that their use keeps the teeth clean does not necessarily indicate that the incidence of caries would be lowered. These facts have been strongly brought out by the work done recently at several of our mid-western universities. Caric control is still somewhat of a mystery though there have been some notable strides made towards further clarification of the conditions which control it. The difficulty presented in such a study seemingly stems from lack of suitable control among the human subjects being tested.

Dentifrices, generally, are marketed in two forms—as a free flowing powder and as a paste packaged in a collapsible tube. Sales figures definitely indicate an overwhelming preference for the paste, but enough of the powder is sold to indicate a fair-sized market for dentifrices in this form. In either case the dentifrice consists of (a) a polishing agent (b) a detergent (c) essential oils and other flowing agents to both mask undesirable tasting properties and to add a pleasant tasting agent. To these three essential agents other substances may be added to further qualify the product according to the wishes of the manufacturer.

Since lactic acid seems to be the oral substance most likely to cause harm, a mild alkali is usually incorporated to neutralize it. One of the most effective agents in general use among agents is a mixture of sodium bicarbonate and salt. In general manufacturing procedure, the alkaline agent is also used as a polishing agent and therefore calcium carbonate and tri calcium phosphate are used instead. Other anti-acid agents are magnesium hydroxide and aluminum hydroxide either as such in a paste or in dry gel form in a powder.

Much work has gone into the formulation of the paste—perhaps because of its greater popularity. Generally speaking they consist in addition to the essential agencies already mentioned, a fair percentage of glycerine—provided primarily because of its function as freezing point depressant and a vapor pressure reducing agent, so that the formula will not lose its water too readily—and a binder—usually gum tragacanth so that the viscosity of the finished product may be more easily controlled. Formulations of dentifrices are not limited to glycerol and tragacanth since propylene glycol is also used as well as gums such as acacia and derivatives of Irish Moss.

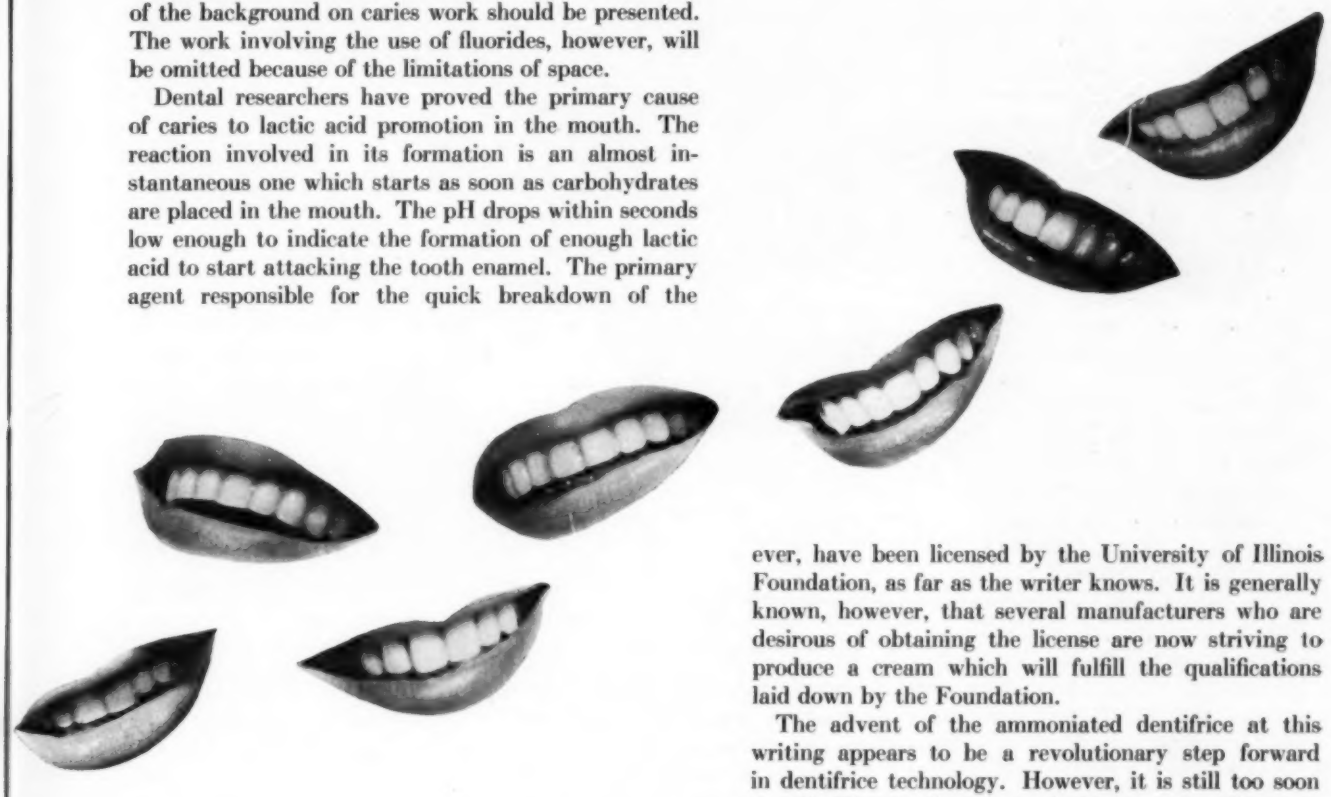
The detergents used are fairly comprehensive, including soaps of the various fatty acids usually as the sodium salt and soap builders such as sodium hexametaphosphate as well as the various soapless detergents including sodium lauryl sulfate, sodium lauryl sulfoacetate and lauric acid ester of mono ethanol amido sulfoacetate. The detergent has a twofold function, primarily of removing foreign substances from the tooth's surface, but also to aid in the spreading of the antiacid agents over the surface so that any residual lactic acid could be better neutralized.

In addition to the agents already referred to there have also been used oxidizing agents such as potassium chlorate which effectively helped to remove the so-called "tartar." Unfortunately, the use of these agents have fallen into disfavor because of some unfortunate publicity given them some time ago. The writer, however, believes that their incorporation helps the brightening function of the dentifrice immeasurably. It is true that

oxidizing agents are toxic if injected in large enough quantities, but certainly not in the amount needed for brushing the teeth.

Dentifrice manufacturers have recently been thrown into a turmoil by publicity given to work being done at the University of Illinois. The work is a basic study of the causes and prevention of caries and the writer will attempt to present a short summery of the findings so far. Before going into it, however, a bit of the background on caries work should be presented. The work involving the use of fluorides, however, will be omitted because of the limitations of space.

Dental researchers have proved the primary cause of caries to lactic acid promotion in the mouth. The reaction involved in its formation is an almost instantaneous one which starts as soon as carbohydrates are placed in the mouth. The pH drops within seconds low enough to indicate the formation of enough lactic acid to start attacking the tooth enamel. The primary agent responsible for the quick breakdown of the



carbohydrate is the "lactic acid bacillus", normally present in the mouth. It was thought, therefore, that the introduction of a safe germicidal agent specific for the lactic acid bacillus would interrupt the cycle which ends with the production of lactic acid and caries formation.

After considerable work in the field, these same researchers recommended the use of a mixture consisting of chalk, di ammonium phosphate, urea, essential oils and a detergent. This mixture was reported to effectively kill the lactic acid bacillus and to soften the "tartar" so that removal was easy with the usual brushing. The recommendation was that the powder be used as such, and several of the large manufacturers of dentifrices have already adapted it and are marketing it on the basis of the evidence so far accumulated. However, the uppermost thought in the minds of these same manufacturers was to carry the work one step further and incorporate the urea, di ammonium phosphate et al into a paste. This, however, is not as easily done as would appear. The University of Illinois Foundation which is issuing licenses to manufacturers on the basis of a patent already applied for has stipulated that more of the usual substances such as glycerol or gums be used because they are similar to carbohydrates in their structure and therefore as likely to be broken down to lactic acid as the carbohydrates.

Several pastes have already appeared on the market advertised as ammoniated tooth pastes. None, however, have been licensed by the University of Illinois Foundation, as far as the writer knows. It is generally known, however, that several manufacturers who are desirous of obtaining the license are now striving to produce a cream which will fulfill the qualifications laid down by the Foundation.

The advent of the ammoniated dentifrice at this writing appears to be a revolutionary step forward in dentifrice technology. However, it is still too soon to tell. Though there is no doubt as to the efficacy of the new agent against the lactic bacillus, clinical results though gratifying are not as yet conclusive. Most people of my acquaintance wash their teeth twice a day—before eating any food early in the morning and after eaten all the food they will consume during the day—before retiring at night. Whether or not using the Ammoniated dentifrice under these conditions will effectively prevent the reoccurence of the lactic bacillus is still to be proven.

Under any circumstances the use of this agency seems to me, to be indicated because of the definite retarding effect against caries it must have by inactivating the bacteria at the time of use. There is no doubt that it is an effective aid against caries—it is the degree of aid it offers that is still in doubt.

A fuller answer will no doubt be forthcoming, but such a project would require a minimum of three years under properly controlled conditions to produce an answer. With the work now being intensified on the study of the activity of the Ammoniated dentifrice some of the answers will be reached at regular intervals in the future.

*B. T. Babbitt, Inc. of New York, manufacturers of GLIM, make the Crown Cap used as a closure on this product do double duty . . . a dependable seal and a handy measuring cup. One capful of GLIM gives enough suds for almost any dish washing job . . . even in the hardest water.*

Here's a real testimonial to the sealing efficiency of Crown Caps. GLIM, a liquid, is packed, shipped and stacked on store shelves with the bottle upside down, resting in the cardboard display base. These Crown Caps have the patented Deep Hook Thread construction. They give extra sealing dependability because of the positive, down-pull sealing action. They're easy to apply and remove, too. The metal cap threads clear the sides of the glass container threads eliminating side scraping or binding.

A Crown Representative will be glad to describe all the advantages of these caps and to suggest the correct type of liner for your product. There is no obligation. Just address: Crown Cork & Seal Co., Baltimore 3, Md. *World's Largest Makers of Metal Closures.*

# CROWN CLOSURES

*Approved by millions of housewives*

# PACKAGING AND SELLING

## PRIVATE BRANDS

PRIVATE brands will again return as an important part of our retail economy, according to Neil Borden of the Harvard Graduate School of Business Administration. According to Mr. Borden, private brands historically make their progress in relatively poor economies.

Before the war this trade had experienced a long development of the retail private brand. This retail invasion into the manufacturing field gathered quite a bit of momentum during the early depression years, but in the few years preceding the war had stabilized into a substantial but relatively small percentage-wise part of the manufacturing and the retail business. During this period there was probably a higher percentage of failures in the retail private brand, in the sense that retailers discontinued this brand, than in the manufacturing field. In this industry, with the few noticeable exceptions, no retailer was able to build up a private label business to a point where it particularly concerned the manufacturers selling to that store or group of stores.

Nevertheless, the private label remained as a somewhat disturbing element, particularly in the sense that in some stores it occupied far more display space and far more retail sales clerk time than could be justified by the volume of business which the store was able to obtain on its own brand. If this private label brand had been an outside interest, many stores would have eliminated it long ago, but an element of stubborness or pride continued this uneconomic operation in too many stores.

As a further factor, in a few cases of powerful retail outlets, store owners used their private label line as a threat or club to obtain certain concessions from some manufacturers. During the war there was a substantial decline in retail private labels largely because few retailers were in a position to compete with manufacturers for packages and raw materials. In addition, this retailer's club became rather disturbing and in some few cases turned out to be a distinct disadvantage.

There will be, undoubtedly, a revival of the private label because the cycle seems to have swung too far away from this apparent green pasture which many retailers seem destined to fall for. That this green pasture is too often a mirage, and that the facts are clearly on the record, probably will not stop some of the large retail interests from again venturing into this field. Among the basic weaknesses of the private label of the retailer is the fact that they are nearly always imitative, and in the nature of the beast, are not inclined to contribute to the research that proves a continuous stimulus in industry and sales.

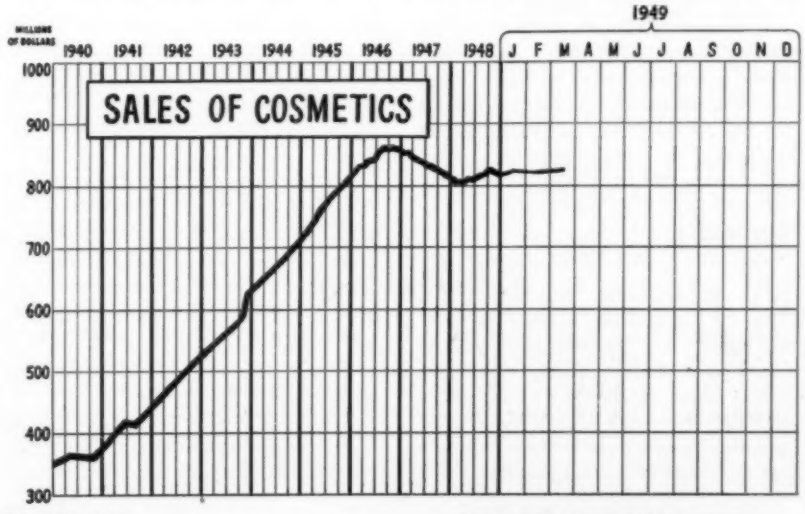
A guess could always be made if the private label of retailers dominated a market, research and to a large extent creative packaging and similar progress of this sort would largely disappear from the industry. By the very nature of things the retailer must run his manufacturing division with his left hand and concentrate his full force of mind and body on his own highly competitive main business.

Another disadvantageous factor is that his own store personnel almost always develops an inferior complex towards the store's own brand. Retail sales clerks, for instance, rarely believe that the small side venture of his retail employer can compete in manufacturing prestige, product quality, or alertness in product development with the majority of independent, specialized lines which the store also sells. To them the retailer's private brand is something that he casually procures for the sole purpose of using his store clientele and their own sales ability to get a little higher mark up.

Nevertheless, it is a constant dream of certain retailers that if they had their own private label line, they will some day stumble upon a fortunate product whose rise to fame, similar to the Horatio Alger story of many manufacturers in this trade, will present them with a business that may even exceed their total retail operations. Or if their dreams do not reach this far, they do pleasurably meditate upon a line of products owned and controlled by them which will acquire a large substantial clientele which must repeatedly return to their stores to obtain these products.

The grocery business is very far in advance of anything in this trade in the development of private label. In this field are several vast, powerful retail interests which have entered

Retail sales of cosmetics for the twelve months ended with March 1949 amounted to $825,109,608. This compares with $821,480,000 for the twelve months ended with February 1949 and with $807,463,000 for the twelve months ended with March 1948.



several manufacturing retail fields with enormous purchasing power for which they have guaranteed sales. In the field of basic food essentials they control quality and operate at a price available to only the largest manufacturers. One of these enormous food chains packages under a label which they own, several basic food products whose sales in their stores exceed all of the national brands put together. There have been recently some open questions asked in Washington as to whether this development, carried to this extreme, is a healthy, economic development and if, in fact, it is legal. There can be little doubt that if certain very large retailers obtain through the use of their retail control of a large part of the consuming public a position in manufacturing which would tend to a monopoly of the basic sources of supply, production, packaging and retailing that this entire question of the private label and the national divisions between production and retailing will come up for public examination.

### Testing Your Product

Product testing is a technique which is receiving increasing attention by merchandisers in this country and when it is developed to a technique which is suitable and practical for any one kind of product, there is plenty of evidence that it pays big dividends on the money required for this testing.

One company that has developed this technique in an excellent way is the General Foods Corp. According to Mr. Thomas M. Rector, vice-president in charge of research and development, the cost of developing a single product will range anywhere from $25,000 to $1,000,000. At the present time, this company is spending more than $2,000,000 a year on research and product development.

Ideas for new products, according to Mr. Rector, rarely or never come from the public, although plenty of ideas are submitted in this way. One half of the ideas come from within the company or research department, about 30 per cent from the sales and advertising department derived from contact in the field, and the remaining 20 per cent from the company's executives and other departments.

After a product is developed in the laboratory, it usually has to pass four principal tests before it is approved for national marketing. The first test is in General Food's own kitchen where it may go through many changes and where from 10 to 50 persons in the company's own organization are asked to give an opinion on it.

The next test is in the retail trade. The customers of as many as 50 stores, which are most usually super markets, will be invited to test the product on the spot and give an opinion stating their likes and dislikes. As many as 50 to 100 customers' opinions can be obtained each day in a test of this sort.

The next step is the consumer jury test. From 500 to 5,000 families try out this test in their homes. Their reactions are then carefully appraised through personal interviews or through replies to questionnaires. If the public votes against a product in the home test, it is discarded, although it may have come through each of the previous tests in a very favorable way. When public criticism indicates something that can be changed in the laboratory, this change may be made but the product then has to take the consumer test all over again.

The last step in product testing is market sampling. This means that the product will be introduced in several cities on a broad scale supported by advertising, store display and other promotion means. Not every product lends itself to all of these tests. For instance, some products could not be sampled very readily over the retail counter of a store. However, no effort is avoided that can possibly get a thorough and a broad and true check on market and consumer opinion before the company associates with this new product its prestige with the retailer and the consumer and before it makes any substantial capital investment in marketing and production.

### No! No! No! but Yes!

The Nono Corporation is putting out a new product called "No! No! No!," supported by advertising using the slogan, "The Product Everybody Says 'Yes' To."

"No! No! No!" is a lotion for washing hands, packaged in a tube, which eliminates the need for using soap, water or a towel.

### Fair Trade

Now the pendulum is swinging back again on Fair Trade, and after several years of peaceful operation, these laws are again under vigorous attack. It is interesting to note that to a large extent these attacks are being made by the very people whose uneconomic practices and whose deception of the public brought these laws about.

Jack I. Straus, president of R. H. Macy & Co., has always been one of the toughest opponents of retail price maintenance and he recently stated, "When a manufacturer fixes or maintains a price, the price must be high enough to justify the high cost of the distributor, and the community is deprived of the economies of mass distribution at retail and the lower prices that would inevitably result."

There are several things about this statement that we do not like. No. 1 is the Fair Trade brands, particularly in this industry, have a very notable record of price stability during the last several years of inflation. That is, a very high percentage of these products are still selling at pre-war prices in spite of substantially increased costs and the few that have increased in price have made this increase very substantially less than practically all commodities where there was no price maintenance.

No. 2—Mr. Straus mentions mass distribution as desirable, but how is mass distribution possible in this country, where stores in several thousand communities are essential for mass distribution, without an operational margin which permits the smaller stores in these smaller communities to exist.

No. 3—In addition to this, from the little bit that we know of retail economics, it had not occurred to us that Macy or any other department store could be rated as a low cost distributor. As we recall the studies of the Harvard School of Business Administration on the operational costs of department stores and of chains these do not give any indication that department stores have a low cost, operational advantage. In fact, we are quite sure that the opposite is true.

Now that super-markets are so generally expanding into a type of limited department store operation, we hardly would guess that a department store could compete with the super-market in parallel departments, at low cost operation.

No. 4—Since a very substantial part of the bad practices which brought these Fair Trade Laws into existence took place in the products of this industry, we would find it hard to believe that Macy can be sincere when they are calling for a repeal of this law so as to transmit to the public the advantages of low cost operation.

The facts would seem to be instead that a department store, such as Macy, carrying a high percentage of its mer-

chandise in goods not affected by Fair Trade Law, is thinking rather closely of returning to former practices where the branded merchandise of a few trades, such as ours, will be deliberately sold at a loss as a come-on to the public for the purchase of other goods.

To use a legal expression, it doesn't seem to us that many of the people who are vigorously fighting Fair Trade are coming into court with "clean hands." The sobs of these people for the protection of the public interest very often have a cute twist which cover a greater self-interest for the orator.

### Help Yourself

Drug-O-Mat, a new space-saving type of shelving, was introduced during May for the first time with the opening of the Pennsylvania Drug Company's 10th store in Stamford, Conn.

Drug-O-Mat is a patented rear-load, gravity-feed display vendor and is a modification for drug store use of the famous Food-O-Mat which so many super-markets are now installing.

On only 21¼ lineal feet of Drug-O-Mat, over 500 glass, packaged and tinned items are arrayed for customer convenience and to stimulate impulse purchasing. As a customer selects one item, another item slides into place by gravity with a continually fresh and full display.

Merchandise displayed in this way includes cosmetics, dental and shaving preparations and other similar standard merchandise.

### Retail Salesmen on the Spot

In a recent talk before the members of the Society for the Advancement of Management, William E. Sawyer said, "The only way to corral the full force of advertising is to have skilled salesmanship at the counter."

Commenting on the fact that manufacturers spend nearly $4,000,000,000 on advertising annually, he said that "A small increase in the retail sales training budget in relation to the advertising expenditure would have given these products their final 'over-the-counter push' ". Johnson & Johnson have settled on a training film as the simplest and cheapest way to show sales techniques.

There is a great deal of awareness in the retail trade, as well as among manufacturers, that a higher degree of skilled, retail selling will be necessary for the future. A number of recent tests in the department store field have exposed many serious weaknesses, not only in aptitude and selling and familiarity for products in the department, but even for alertness and ordinary sales ability.

The National Wholesale Druggists Association has found that 87 per cent of the druggists seek extra selling advice and training, and that 54 per cent of the druggists specifically requested clerk training.

Several economic factors are bringing real pressure to bear to force more competent retail selling. Declining retail store volume, combined with high fixed wages, is probably the most potent of these factors. In addition to this, the effort of many types of retailers to hold and maintain a position in selected selling, and in an effort to forestall the widening of distribution by many manufacturers, will find that intelligent and alert selling of the kind that builds up a retail clientele will be their main answer to a plea for preferred recognition by the manufacturer. In addition to this, the growing public approval of the super-market type of retailing, and the increase in such things as the Food-O-Mat and the Drug-O-Mat with other similar mechanical devices for display and quick selection, tends to put the retail clerk more and more on the spot where he will have to justify his existence.

It is probable that the future of retailing will mean a division of products within the retail store. One group of products will be those low or medium priced utilities where the value and quality has wide public recognition through branding and consumer advertising and where the character of the product requires little or no explanation by the retail clerk. This class of product will tend to be sold in open display, largely without sales help. This means that the retail sales clerk will be compelled to fall back on those products which are classified as shopping items, where the customer deliberates over price and quality and where he often requires detailed information.

This type of selling requires real sales ability, as well as sales knowledge, and it is probable that the retail sales clerk who cannot measure up to this standard will tend to disappear from the retail store.

### One by One!

What is happening in so many different industries today was expressed very tersely by a warehouse man for a certain metal.

In a newspaper interview recently he said, "About December 15 we experienced the usual holiday slump but did not pay much attention to it. Demand never revived and we woke up one morning to find the pressure was off."

### Packaging Award

The House of Gourielli won the Charles S. Welch Packaging Award presented by Pierre Harang to Roy Titus, General Manager of the House of Gourielli, at the annual convention of the Toilet Goods Association.

The package was the "Five O'Clock" and "Here's How" fragrance series in a cocktail shaker package.

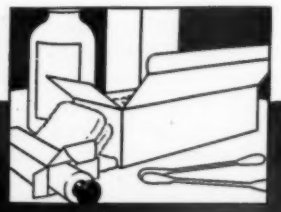
Ladislas Medgyes designed the package, T. C. Wheaton made the bottle, Majestic Metal the cap and Carl Voss the box.

### Double Duty Research

Most companies define research as something that gives them a chance for a non-competitive new product or a means of keeping their competitive products at least equal to or, with hopes, better than competitors'. That's why directors okay the research budget —more sales, company growth. It's why, also, the research division is so often hush-hush and surrounded with an aura of mystery and taboo with other company personnel.

But there's another function of research that management often forgets. It can be one of the biggest morale

# In Baby-Care Products, For Instance



THE CLAY-COATED BOX BOARD THAT'S CUSTOM-MADE FOR EVERY ORDER

## Quality Products Demand Quality Packaging...
## Uniform, Color-True, Clean-Surfaced Ridgelo

Where intangibles play so great a part in consumer confidence, such as in baby-care products, the package is a symbol of the integrity of the maker. From nursing nipples to swab sticks, baby-care products packaged in Ridgelo cartons reflect the high standards of their manufacturers.

*Whatever* your product, you'll find Ridgelo an effective aid to packaging efficiency. Since every order is made to individual printing and filling requirements, Ridgelo assures you of cartons exactly tailored to *your* needs, specifically designed for *you* in every detail.

Ridgelo's uniformity is guaranteed you through a precise, controlled, sample-matching system. Even in years' old reorders, this virtually eliminates any risk of variation. Perfectly sized surfaces mean clearer, brighter printing . . . while integrated pigments and light-resistant finishes *preserve* the fresh appearance of your packages.

Ridgelo keeps packaging costs to a practical minimum, while simultaneously maintaining its reputation for the finest box board made. When quality is the buy-word in maintaining sales leadership, you can rely on Ridgelo.

MADE AT RIDGEFIELD, N. J.
BY LOWE PAPER COMPANY

REPRESENTATIVES

*H. B. Royce, Detroit • Philip Rudolph & Sons, Inc., Philadelphia*
*A. E. Kellog, St. Louis • Norman A. Buist, Los Angeles*

builders the company has at its disposal —especially with the sales force, where it can count most.

If there is one single thing a salesman needs, it is the utter, complete conviction that the products he is selling are the best damn products in the world. By selling these products he should feel that he is doing a big favor for the retailer and the sales clerks, who will win public esteem and gratitude for introducing their customers to these products.

This is a job the sales manager cannot always do to best effect. Salesmen know that he is simply putting on a sales talk—saying what he would have to say under any circumstance. To a degree this applies to a non-technical president or any management officer.

But the research boys are different. They are properly supposed to know nothing about selling,—to be pretty crummy about it if they tried. Their corner is facts. The research lab is a fact and so are all sorts of instruments.

Salesmen get plenty of pep and enthusiasm and they are experts in dealing it out. Sometimes a research director and his assistants, by the very absence of these emotions and by the quiet recital of their procedure in developing, testing and comparing, will carry a conviction to salesmen that now they really have "it."

## A New Record for "Time"

That was a smart and enlightening thing which Time, Inc. did in its last annual report. In two different places in this report executives of Time, Inc., and that means Time, Life and Fortune, thanked their suppliers, and named them by name, for helping in their expansion program.

In addition to this, in commenting on their own program of research and development, executives again mentioned a large number of companies and then thanked these companies for their contribution to their progress and research. Among these companies thanked for research aid are many well-known in this industry, such as the Aluminum Co. of America, American Cyanamid Co., Corning Glass Works, Dow Chemical Co., E. I. DuPont de Nemours & Co., Eastman Kodak Co., and Union Carbide & Carbon Corp.

Over the last few years there has evolved a new profession, that is director of stockholder relations. Partly as a result of this and partly because there is a general trend this way, there has been an increasing belief among corporation executives that their annual report should be presented in a form that a majority of their stockholders, who are very often women and who are nearly always small holders of less than 10 shares, can understand. In addition, a few companies have felt that it would be an excellent company policy to humanize their reports and to give stockholders the feeling not only of understanding and participating in the company, but a feeling that it is something more than "soulless."

This step by Time, Inc. goes a little bit further.

We have several times mentioned in this department our conviction, based on many observations, that a surprisingly large part of industrial progress is contributed by friendly, alert, research-minded supply companies. This is particularly true in many parts of this industry, and it can be said without any fear of contradiction that a very substantial part of the credit for successful new products, new packaging, new production efficiency, marketing plans and other things that have contributed in a major way to the success of many companies had their origin in the research department or in the mind of a friendly supplier.

We have stated before that in the perfectly balanced company the purchasing agent would be one of the three or four major executives and that both he and his company would consider it a primary function of the purchasing department to establish friendly, ethical relations with all suppliers and would make it a primary must that this department should be the point of exposure in an imaginative, receptive way to every possible idea originating from the supply field.

This obvious friendliness which the chief executives of Time, Inc. have toward a large body of dynamic supply houses is the best possible indication of an alert, progressive and imaginative direction of this company's affairs.

### Department of Commerce Monthly Retail Trade Report

*Retail sales of all kinds in drug and department stores showing sales for the month of March 1949 as compared with the same period in 1948.*

| | *Department Stores* | *Drug Stores* | | *Department Stores* | *Drug Stores* |
|---|---|---|---|---|---|
| Atlanta | –15 | +1 | Minneapolis | –4 | +2 |
| Baltimore | –12 | –3 | Milwaukee | –8 | +6 |
| Birmingham | –14 | –2 | Newark | –12 | –12 |
| Boston | –14 | +7 | New York | –10 | +1 |
| Chicago | –7 | +4 | Philadelphia | –11 | –1 |
| Cincinnati | –14 | +6 | Pittsburgh | –10 | –1 |
| Cleveland | –8 | –1 | Providence | –18 | –7 |
| Dallas | X | –7 | St. Louis | –10 | +9 |
| Detroit | –9 | +7 | San Francisco | –7 | –6 |
| Los Angeles | –12 | –6 | Seattle | –7 | –1 |

## Let's Have Fun by Television

It is probably with mixed emotions that salesmen will view the possible ending of the big national sales meeting in the city of the home office. To many men this big annual meeting represents a few days release from territory routine and a welcome fling in the big cities with theaters and parties. For the sake of this release they are willing to absorb, with their more serious minded fellow salesmen, the pep, enthusiasm and the pressure which gears up the new year's campaign.

But Canada Dry indicates that this big, central, annual party may be more and more on its way out. On March 30, Canada Dry Ginger Ale, Inc. conducted a national sales and promotion program by television. In arrangement with the American Broadcasting Company the television of the meeting was carried over a closed circuit to eight cities. In this meeting the salesmen and sales executives of these eight districts listened to a presentation by Mr. Moore, president and other top officials of the company.

The specific occasion for this conference was to announce the company sponsorship of a new television show "Super Circus." The eight cities included in the conference were New York, Boston, Philadelphia, Washington, Pittsburgh, Cleveland, Detroit and Chicago.

It may well be that television will come into great favor with sales executives in launching interim promotions as well as for general sales meetings.

# New Products and New Packages

ABBOTT LABORATORIES describes its new Aerohalor, soon to be released to the market, as the first devise for administering powdered medicaments into the respiratory tract in uniform doses. The Aerohalor consists of a discharge chamber with interchangeable mouth and nose pieces.

HARRIET HUBBARD AYER brings out two new complexion aids, Ayeristocrat Creamy Foundation, and Ayeristocrat Powder. Delicately scented, and packaged in a pink, oval shaped box, the powder is supplied in eight shades. The foundation comes in four blends, and is packaged in a frosted jar.

BARBARO'S INC. introduces its new Beauty Creme Shampoo, a product of Barbaro's Dandruff Remover, Inc., under a black and white label. The new cream shampoo is mild in its thoroughness, and does not effect nor stain dyes.

THE BORDEN COMPANY is promoting another of the Elsie Enterprizes as an addition to the childrens' line of cosmetics. The Moo-Vee Cosmetics include products for hair grooming, shampoo, buttercup cologne and bubble bath.

BRISTOL LABORATORIES INC has released one-half million unit and one-quarter million unit buffered Crystalline Penicillin G Potassium Tablets. The tablets give assurance of higher therapeutic levels, providing effective oral penicillin therapy. They are packaged six to the box.

PARFUMS CHARBERT, INC., introduces Mountain Greenery, a summer spray cologne now ready for immediate shipment. The cool green liquid comes in an eight-ounce drum-type bottle with a gold and green label. The fragrance is a fruit and flower blend.

PARFUMS CORDAY, INC., is beating the heat with its new Fame and Toujours Moi Eay de Cologne and Eau de Toilette, developed for summer promotion. The floral odor of Fame perfume, and the woody, more sophisticated scent of Toujours Moi are retained in these lighter versions.

CUTTER LABORATORIES has assembled a Compak Kit for the treatment of snake bite. Pocket-knife size, the kit contains three suction cups, a vial of antiseptic, a knife blade and a tourniquet tape along with graphic instructions for their use.

LADY ESTHER'S Complete Creme Make-up, packaged in a compact-sized plastic container, is designed for a quick change of face that will resist warm weather abuse. Five shades are available.

LAKESIDE LABORATORIES, INC., announces Oral Mercuhydrin Tablets with Ascorbic Acid, indicated for oral use in cardiac therapy.

LEDERLE LABORATORIES is now distributing Hetrazan Diethylcarbamazine Lederle, an anti-filarial drug, indicated in the treatment of Bancroftian filariasis, loa loa and onchocerciasis. It is available on prescription only and is packaged in bottles of 100-50 mg. tablets.

THE LIPMATCH COMPANY has struck a new note in the design of a lipstick put out in five shades, and packaged in a novel folder resembling book matches. Fifteen sticks are contained in each folder, and a mirror is attached.

LYRIC DISTRIBUTORS introduces the Lyric line of cosmetics, grown from the original five to twenty items, in a new group of packages and containers of classic simplicity, designed by Robert Sidney Dickens & Associates featuring Mediterranean green and gold on the cannisters and cartons, and acid-etched translucency on the bottles.

MERCK & CO., INC., has introduced a new product for the treatment of glaucoma, under the trade name of Floropryl. Chemically the product is di-isopropyl fluorophosphate, popularly knowrr as DFP. Due to its High potency, Floropryl requires less frequent application.

MIDDLEBROOKE LANCASTER'S latest offering to the retail trade is its novel Nutrine Perfumaire Wall Plaque available in seven full-color designs. These deodorizers are filled with refill fragrance of six different odors.

ORGANON INC. has announced a new smaller-dose tablet of Lynoral, a derivative of the natural follicular hormone. Each contains 0.01 mg. of ethinyl estradiol. Lynoral still is available in tablets of 0.01 mg. and in an elixir containing 0.03 mg. per teaspoonful.

OWENS-ILLINOIS GLASS COMPANY, Prescription Ware Division, has made available a new merchandising folder for use by pharmacists as a wrap-around piece for dry prescriptions, announcing "four extra ingredients;" Quality, Precision, Rx Protection, Prompt Service.

JEAN PATOU offers for summer freshness, a new cologne, Moment Supreme, a spicy-sweet scent, created in Paris.

SCHERING CORPORATION announces Trimeton Maleate Elixir and Trimeton Maleate Topical, for oral administration and for local application respectively, indicated as inhibitions of local histamine effects produced by allergens.

G. D. SEARLE & CO. introduces Hydryllin Tablets with Racephedrine Hydrochloride as its fourth new product in its antihistaminic series.

SHARP & DOHME are ready to distribute Soluthricin, a ready-for-use tyrothricin solution for topical application.

SHARP & DOHME is now supplying Penalev Tablets, a new penicillin dosage form, in tablets containing one hundred thousand units as well as fifty thousand units of the antibiotic, for oral and sub-lingual therapy.

E. R. SQUIBB & SONS recently has released Tolserol, an elixir. Tolserol, which has been referred to in medical literature under the name of Myanesin, is indicated for therapy in certain neurologic disorders.

THE TONI COMPANY has developed a new Spin Curler to facilitate home permanent waving. The Spin Curler is included in a new Home Kit.

ULTRA CHEMICAL WORKS, INC., has announced its recent development of Sulframin E Liquid, a synthetic detergent.

THE NORTHAM WARREN CORPORATION has just introduced a new bonus package, No. 30 NS named "Here's Your Cotton." As the name indicates, it is a handy cotton dispenser.

WINTHROP-STEARNS INC. is safeguarding its ampules with a new Rondo Carton. Winthrop-Stearns also is offering Tofaxin, its new brand of Tocopherol (vitamin E) in capsules of higher potency.

# How you can solve that tough container problem of yours!

**. . . And we hope that you've really got a tough one—something new and challenging**

Drug, cosmetic and pharmaceutical manufacturers are constantly giving us problems to solve in container design and production, and we can usually find the answer.

There are many easy and inexpensive solutions in our stock items—an exceptionally large selection of bottle caps and containers in plain, satin and highly finished metals, now available in quantities. If that doesn't do the trick, Scovill "know-how" in design effects and mechanical production methods is equipped to help you. That's why we're anxious for something difficult.

So send along your problem . . . mail coupon below, checking the item or items which parallel your needs, and we'll go to work. SCOVILL MANUFACTURING COMPANY, Drug and Cosmetic Container Division, Waterbury, Conn.

*Best selling brands in leading stores have*

**SCOVILL-MADE** *Containers*

A PRODUCT OF SCOVILL

SCOVILL MANUFACTURING COMPANY
Drug and Cosmetic Container Division
63 Mill Street, Waterbury 91, Conn.

Please send full details concerning your design and manufacturing facilities. I am interested particularly in the production of

- ☐ Chemical Containers
- ☐ Face Powder Box
- ☐ Cream Jar Cap and Base
- ☐ Wick Perfume Container
- ☐ Lip Shape Perfume Holder
- ☐ Round Perfume Bottle Holder
- ☐ Drawn Shell for Cap Combination Cap and Dispenser
- ☐ Cap on Perfume Bottle

My problem is none of the above, but .....

.....

NAME.....

COMPANY.....

ADDRESS.....

CITY.....ZONE.....STATE.....

# Dress Up Your Packages at Low Cost with

# ANCHOR* NKCT CAPS

ENHANCE appearance and you enhance the sales appeal of your package. Do it at low cost with the *Anchor* NKCT Cap. Its rich and distinctive appearance as well as economy is a result of simplicity in styling. Knurl-free skirt and smooth, trim lines give this cap the appearance of a more expensive closure.

Its scientifically designed deep rolled thread speeds application thereby effecting further economies. Withal, it provides a dependable airtight, leakproof seal.

The *Anchor* NKCT Cap is suitable for chemicals, cosmetics, drugs, proprietaries, toiletries and many other products not subject to bacterial decomposition. May we submit samples and prices?

*Reg. U. S. Pat. Off.

ANCHOR HOCKING
GLASS CORPORATION
Lancaster, Ohio

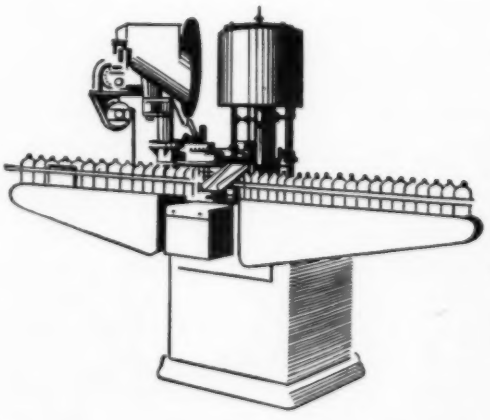
# FOR CAPPING AT SUSTAINED HIGH SPEEDS It's Anchorglass*

SUSTAINED high speed capping demands uniformity in glass containers. It demands accurate finishes, uniform height and body diameters as well as stability in this all-important production operation.

*Anchorglass* containers are manufactured with these requirements foremost in mind. They are a result of carefully engineered design, professional care and know-how in manufacture, pride in first-class workmanship and quality control through constant tests and inspections.

Uniform *Anchorglass* containers are supplied in all standard styles, capacities and finishes, in crystal, amber or emerald green glass. Write for samples for test or comparative purposes.

*Reg. U. S. Pat. Off.



ANCHOR HOCKING
GLASS CORPORATION
Lancaster, Ohio

# it's a snap....it's a SNAP-CAP

## Your product stays dry in Wheaton SNAP-CAP vials

These handsome crystal-clear glass vials with smart jewel-like caps of Polythene are ideal for all hygroscopic products. Manufactured to very close tolerances so that there is assured an exact fit between SNAP-CAP and VIAL. Caps stay put regardless of temperature changes. Extremely light weight but very strong and always uniform. Breakage reduced to a minimum. A complete range of sizes. SNAP-CAPS can be made for any private mould container regardless of size, capacity or color. Caps available in color and in private design on special quantity orders. Aluminum tamper-proof seals available.

*Write for samples and laboratory reports on the moisture-resisting performances of SNAP-CAP VIALS.*

WHEATON GLASS COMPANY Millville, N. J.
New York Office . . . . . 165 Broadway
Chicago Office . . 221 North LaSalle Street

Wheaton SNAP-CAP VIALS

# CARR-LOWREY *Stock Bottles*

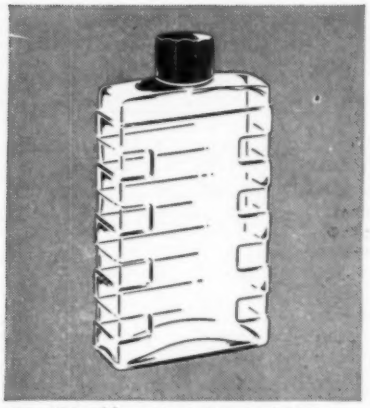
*for perfume, toilet water and cosmetic products*

Here are just a few of the styles which have always been popular. While these illustrations will be of value in helping you select the type of bottle to suit your product, we suggest you send for samples so that you can inspect the actual bottles at your leisure. If the style you want is not shown, our representative will be glad to make suggestions from our large assortment of stock designs.

**CARR-LOWREY GLASS CO.**

*Factory and Main Office* BALTIMORE 3, MD.

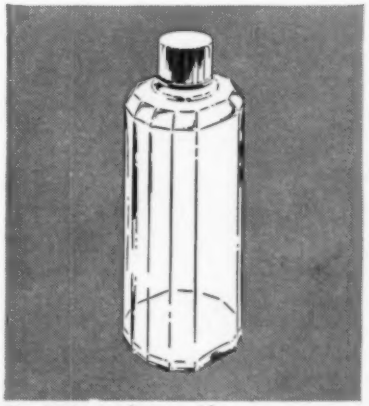
*New York Office:* 40 WEST FORTIETH STREET • *Chicago Office:* 1502 MERCHANDISE MART



**No. 372**—½ oz., 1 oz., 2 oz. and 8 oz.

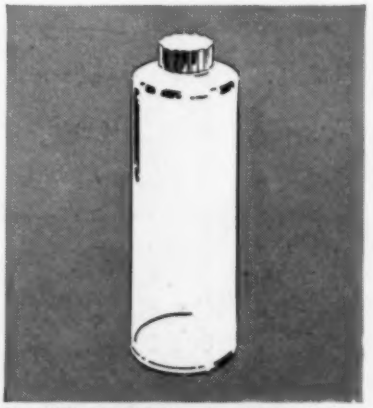
**No. 359**—½ oz., 1 oz., 2 oz., 3 oz., 4 oz., 6 oz. and 8 oz.

**No. 387**—Jar—1¾ oz. and 3 oz.



**No. 368**—3-3/16 dr., ½ oz., 1 oz., 2 oz., 3 oz., 4 oz., 6 oz., 8 oz., and 16 oz. Also made in Squat Style in 1oz. and 2 oz.

**No. 408**—2 dr., ½ oz. 1 oz., 2 oz., 4 oz., 6 oz., and 8 oz. Also 6 oz. Wide Mouth.



**No. 433**—Tall Cylinder—4 oz., 8 oz. and 16 oz.

**HAPPY** *(Listen-to-that-cash-register!)* **HOLIDAY** *says:*

# HOLIDAY SELLS THE IDEA THAT

## THIS SUMMER 1358 DRUG STORES ARE USING HOLIDAY AS THEIR STAR SALESMAN IN THE STORE

Tried for the first time in 1947, Holiday's summer drug store promotion proved itself to be a powerful tool for selling vacation needs.

In 1948 the number of stores was increased to over 400, and independents were included. Speaking of this promotion, one drug chain executive said, "We have had many outstanding promotions...but nothing has ever equalled the success of the merchandising tie-up we did with Holiday."

This year the number of participating chain and independent drug stores has grown to 1,358. They are using Holiday as the basic theme for their summer merchandise promotions in windows, in interiors, in newspaper advertising, and in radio scripts.

**Here's the box score for 1949!**

| | | |
|---|---|---|
| Liggett | New York and New England | 180 |
| Lane Rexall | Southeastern U. S. | 74 |
| Owl | Pacific Coast | 119 |
| Cunningham | Detroit, Michigan | 113 |
| Marshal Drug | Cleveland, Ohio | 45 |
| People's Drug | Washington, D. C. | 150 |
| Katz Drug | Kansas City, Mo. | 27 |
| Independent Drug Stores serviced by Southwestern Drug Corporation | Dallas, Texas | 650 |
| Total | | 1358 |

**Liggett's Suburban Station Store,** Philadelphia, Pa., is one of 373 Rexall-owned stores participating in HOLIDAY's giant 1949 summer drug store Vacation-Needs promotion.

**Alert independent drug stores,** like Earls' Pharmacy in Paoli, Pa., are using HOLIDAY's storewide promotion material in windows, counter displays, and pennants.

**From the nation's** largest chains to independents in small communities, druggists are cashing in on HOLIDAY's natural appeal in selling America's vast vacation market.

**Liggett store manager** Edward J. Connell briefs clerks Rose Badulato and Jane Fullerton on selling vacation needs before opening on the first day of HOLIDAY's 1949 promotion.

# SELLS VACATION NEEDS!

**MANUFACTURERS OF EVERYTHING FROM COSMETICS TO CAMERAS ARE USING HOLIDAY THIS SUMMER AS THEIR STAR SALESMAN IN MORE THAN 800,000 OF AMERICA'S FINEST HOMES**

Holiday's more than 800,000 reader families have an average annual income of $8,900. They comprise the most massive class market in the world. They're alert, intelligent, with zest for the good life and the means to enjoy it.

When they sit down with a copy of Holiday, they're searching for new experiences, places to go, things to do. Every page nourishes and stimulates this desire. It's only natural that these are the people most likely to make *extra* purchases of vacation needs.

And when you combine the natural selling appeal of Holiday advertising with the added force of more than a thousand store-wide promotions, you get the kind of response that breaks sales records.

**WE'RE PLANNING NEXT YEAR'S DRUG STORE PROMOTION RIGHT NOW!**

For 1950 a greatly expanded Holiday summer drug store Vacation-Needs Promotion is being planned to include many of the stores that wanted to participate this year but were too late to fit into our quota of 1,000 drug stores. (As it was, we exceeded the quota by 358 stores!) Watch for the announcement of next year's promotion!

HOLIDAY

The most **MASS**ive **CLASS** market in the world!

A CURTIS PUBLICATION

# Check with Continental

- ✓ Check the dependability of supply that Continental assures users of cans.
- ✓ Check the quality of Continental's lithographed designs.
- ✓ Check Continental's service — service that has made customers of outstanding manufacturers in this field.
- ✓ Check Continental's record on research and product development.
- ✓ "Check with Continental" before making any decision affecting your supply of cans. It costs nothing, may mean much!

**CHECK-LIST FOR DRUG, PROPRIETARY AND CHEMICAL MANUFACTURERS!**

Continental makes a wide and complete assortment of cans for everything from pills to powders. If your packaging problem is one of size, shape, type of closure, special protection or merchandising appeal, chances are we have just the container you need.

*You can't beat Continental as a dependable source of supply*

CONTINENTAL CAN COMPANY

100 EAST 42nd STREET, NEW YORK 17, N. Y.

# *New Perfection*

# DROPPING PARTS

## For Dependable Performance

**As originators and world's largest manufacturers of screw-cap dropping parts, Pennsylvania Glass Products Co. has built up an outstanding record of dependability—in product, in service and in business integrity. This hard-won reputation is your assurance of satisfaction, your guarantee of quality.**

**New Perfection dropping parts are available in a wide variety of styles, colors and sizes to fit your own bottles or can be supplied with our bottles in sizes and colors listed below.**

**#1**
Non-rolling, extra-depth, Bakelite Cap; thick flange rubber bulb; Saftee ball glass.

**#3**
Regular plastic cap; thin flange rubber bulb; semi-blunt glass.

**#4**
Single shell metal cap; oil-resisting Amekine synthetic rubber bulb (without strong odor); blunt glass.

**#5**
Small size plastic cap; midget rubber bulb; regular straight glass.

### RUBBER BULBS

**in natural rubber for general use or AMEKINE SYNTHETIC RUBBER which is highly resistant to the swelling which ordinarily results from use with oil preparations. Various colors and styles.**

### DROPPER GLASSES

**plain or CALIBRATED IN COLOR. The correct glass for every requirement. Careful manufacture assures uniformity and cleanliness. Many styles in any length.**

### CAPS

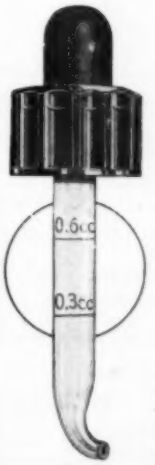
**of plastic or metal are designed for perfect closure, strength and attractiveness. Many styles, colors and sizes.**

### BOTTLES

**in an eye-catching modernistic style in Amber, Blue, Green or Clear glass. Sizes: 2 cc. ⅛, ¼, ½, 1 and 2 oz.**

New Modernistic bottle. Designed to lie flat for convenient labeling. Oval front provides ample label space.

### NEW PERFECTION Dropper Glasses Calibrated IN COLOR




**New Perfection Dropper Glasses can be marked in color at any levels which you desire, making it easy and convenient for customers to administer your product in specific doses.**

**#2**
Non-rolling, extra-depth, Bakelite cap; thick flange rubber bulb; special bent glass (CALIBRATED in color).

***Write for Samples and Quotations***

# PENNSYLVANIA
## GLASS PRODUCTS CO. INC.

**"Glass Goods of the Better Kind"**

**428-432 NORTH CRAIG ST. • PITTSBURGH (13), PA., U.S.A.**

signposts to savings for CITRIC ACID USERS
Save on shipping expenses with CITRIC ACID ANHYDROUS
Save on storage, handling with CITRIC ACID ANHYDROUS

Anhydrous Citric Acid offers a more economical source of this acid, and at the same time you assure yourself of Pfizer quality. By using Pfizer Citric Acid Anhydrous you benefit from these savings:

First, you save on *shipping expense* because Pfizer Citric Acid Anhydrous contains no water of crystallization, and you pay freight only on the citric acid you buy and not on water! Figures show you pay freight on only 91.42 lbs. of acid instead of the full 100 lbs. of normal U.S.P. Citric Acid. This means over 8½% less on every freight bill!

Second, you save on *storage space* and *handling charges* because 10 drums of Citric Acid Anhydrous are equivalent to 11 drums of the U.S.P. acid. This means you eliminate one drum out of every eleven you formerly stored and handled.

*Citric Acid Anhydrous is a granular product, identical in purity with the U.S.P. Citric Acid, and differs only in that it contains no water of crystallization.*

Solutions prepared with Citric Acid Anhydrous are identical with Citric Acid U.S.P. provided, of course, that you make allowance for the water always present in the U.S.P. acid. And, unlike the U.S.P. Acid, the Citric Acid cannot dry out, thus overcoming any possible variations in the resulting acidity of your solutions. For further details, please inquire of Chas. Pfizer & Co., Inc., 630 Flushing Ave., Brooklyn 6, N. Y.; 211 E. North Water St., Chicago 11, Ill.; 605 Third Street, San Francisco 7, Calif.

PFIZER

*Manufacturing Chemists Since 1849*

# NEWS...

### Two Owens-Illinois Appointments

Appointment of George Babcock as Sales Manager of the Closure and Plastics Division of Owens-Illinois Glass Company has been announced by Smith

GEORGE BABCOCK

L. Rairdon, Vice President and General Sales Manager of the Company's Glass Container Division.

Joe Parks, who has been acting as Division Manager for Closure and Plastics Sales, will be attached to the staff of E. F. Schafer, General Branch Manager.

Mr. Babcock joined Owens-Illinois in the Alton Plant in 1934, coming to Toledo the following year in the Statistical and Inventory Control Department. In 1939, Mr. Babcock was an assistant to the General Manager of the Glass Container Division.

Mr. Babcock was placed in charge of the War Contracts Department in 1942 and later that year he went to Washington as an assistant to Harold Boeschenstein, Director of Controlled Materials Plan Division of WPB.

Following this assignment, Mr. Babcock served as assistant to F. J. Solon, Vice President, in 1943 and to H. S. Wade, Vice President and General Manager of the Glass Container Division, from 1944 until his appointment to his new position.

### C. S. Campbell Heads J. B. Williams

Everett B. Hurlburt, president and treasurer of the J. B. Williams Co., Glastonbury, Conn., since 1923, and associated with the companies for many more years, has resigned from the company. He is succeeded in the positions of president and treasurer by former vice-president Charles S. Campbell.

### Cyanamid Appointments

Dr. James R. Dudley, for nine years research chemist at American Cyanamid Company's Stamford, Conn., laboratories, has been appointed supervisor of new product development for the company.

John D. McPherson, who has been with the company since his release from the Army Chemical Warfare Service in 1945, has been named supervisor of market research activities.

### Fistere Named President of Mallinckrodt

Joseph Fistere, formerly vice president and director of Mallinckrodt Chemical Works, has been elected president of that company to succeed the late Arthur C. Boylston, according

JOSEPH FISTERE

to an announcement by Edward Mallinckrodt, chairman of the board.

Born in 1895, Mr. Fistere is a graduate of Cornell University. He joined Mallinckrodt in 1942 after twenty years of sales and management for National Aniline Division, Allied Chemical & Dye Corporation. For many years he was Far Eastern Manager of National Aniline with headquarters in Shanghai, being active there in the affairs of the American Colony, and holding, amongst other positions, that of chairman of the board of managers of the Shanghai American School, and chairman of the American Association of Shanghai. He is a veteran of World War I, having served in the Infantry overseas until his discharge as a Second Lieutenant.

Mr. Mallinckrodt, board chairman since 1928, also announces the election of MacVeagh as vice-chairman of the board, and of Dr. John R. Ruhoff to

CHARLTON MacVEAGH

fill the vacancy on the board. Mr. MacVeagh will continue to serve as treasurer to which office he was elected shortly after joining the Company in 1946. Dr. Ruhoff, who been with Mallinckrodt since 1937, has been technical director since 1946.

John E. Gaston, who joined the Company in 1946, has been elected assistant secretary.

### Grove Purchases the F. W. Fitch Company

James H. Grove, president of the Grove Laboratories in St. Louis has announced that his company has bought the F. W. Fitch Company of Des Moines. Acquisition of Fitch makes Grove one of the country's largest independent drug and toiletry manufacturers.

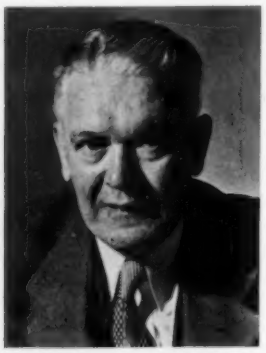
The Grove Company resumed the managment of the Fitch plants at Los Angeles, Jackson, Miss., Bayonne, N J., and Toronto.

It is expected that the operation of these companies will continue without interruption.

Mr. Grove, thirty-five year old grandson of E. W. Grove, who in 1899 founded the company, is a graduate of M.I.T. and is the president of the firm.

### Heads Platt-Forbes

Thomas F. Cosgrove was elected president of Platt-Forbes, Inc., New York, by the board directors at the annual meeting.



THOMAS F. COSGROVE

Mr. Cosgrove joined the agency in 1925 and previously served as vice president.

### Publicity Service

Packaged Publicity and Promotion, is the name of new firm designed for manufacturers and distributors who need an individual publicity or promotion job. The new organization is located at 475 Fifth Ave., New York 17.

Members of the firm include Ida F. Miller, head of the Forth Miller Associates; Dee T. Bates, director of promotion and publicity for Jean Vivaudou, and Elaine L. Coren, formerly publicist for Aziza and Herb Farm Shop.

### Named Secretary of Foster D. Snell

L. C. Cartwright, a member of Foster D. Snell, Inc., since 1936 has been elected secretary of the New York consulting firm, at its annual meeting. At the time other promotions announced were Albert F. Guiteras, named assistant secretary, and Louis J. Bowlby Jr., named assistant treasurer.

### Penn Salt Advancements

A series of personnel changes has been announced by the Special Chemicals division of the Pennsylvania Salt Company. They are as follows: Albert H. Clem has been named assistant manager of sales; Philip J. Staples, Jr., and George D. Grogan have been appointed product supervisors in the Company's Heavy Chemical division: R. S. Roeller has been promoted to manager of sales at the Heavy Chemical division, and Fred Prince, became chairman of the company's centennial committee.

### McKesson Promotions

Bryon B. Cann, a member of McKesson & Robbins Company Inc., since 1937, has been appointed assistant manager of the Peoria division. Two other promotions announced by the company announce that James W. Seibert and Charles R. Beall, have been made district drug sales supervisors of the Southwest region.

### Drolsbaugh in New Post

Chauncey B. Drolsbaugh has been elevated from the position of sales manager to vice president and director of sales for the George A. Breon & Company.

### Owen-Illinois West Coast Appointment

Walter H. Downing has been appointed assistant to Kenneth C. White, general sales manager for Owens-Illinois Glass Company, Pacific Coast division. He is succeeded as manager of the Oakland branch by James A. McCormick.

### Hill Now President and Board Chairman of Sterling

At a meeting of the board of directors of Sterling Drug Inc., James Hill, Jr., president was elected to the additional office of chairman of the board, succeeding the late Edward S. Rogers.

Filling a vacancy on the board, J. Mark Hiebert, M.D., vice president, was elected a director. At the same time, the board elected James F. Thompson as a vice president of Sterling Drug Inc., in charge of the Hilton-Davis Chemical Company, Cincinnati.

JAMES HILL, JR.

Mr. Hill has been president since 1941 and will continue in that capacity. He joined Sterling in 1929 as a tax accountant. In 1933 he was appointed comptroller and in 1939 he was elected treasurer.

Dr. Hiebert joined the Sterling organization in 1934, after having been a medical house officer of Massachusetts Memorial Hospital. He was elected vice president in 1945 and, since 1947,

DR. J. M. HIEBERT

has been assistant to the president in the management of the business.

Mr. Thompson has been a divisional vice president in charge of production for The Hilton-Davis Chemical Company, since 1942 and has been associated with that enterprise since 1924.

### Brennan Forms Sales Agency

Jack Brennan, formerly sales manager of Bourjois, Inc., and Barbara Gould, Inc., has announced the formation of his own sales organization specializing in chain store merchandising, with headquarters at 341 Madison Ave., New York.

### Dr. Boehm To Visit Here

Dr. Erich Boehm the managing director of Nipa Laboratories, Ltd., Cardiff, one of the leading manufacturing firms of chemical preservatives and antioxidants in Great Britain, is visiting the U. S. and Canada during the month of June to introduce certain new products to the North American markets.

Dr. Boehm is the inventor of the esters of parahydroxybenzoic acid as preservatives for pharmaceuticals, Medical and cosmetic preparations.

### Chemical Firm Elects Storm

Norman F. Storm has been elected executive Vice President of Ciba Pharmaceutical Products, Inc. He became Vice President in charge of production in 1943.

### White in Bristol Spot

Alexander R. H. White was elected Assistant Secretary of Bristol Laboratories of the Canada Limited at a recent meeting of the Board of Directors. Mr. White became a member of Bristol Laboratories in November 1948.

### Ryan Advanced

Joseph P. Ryan, who recently joined Daggett & Ramsdell organization in a sales capacity, has been appointed sales manager to promote the sale of Daggett

JOSEPH P. RYAN

& Ramsdell merchandise in department stores, chain stores and independent drug stores.

For the past ten years, Mr. Ryan was associated with the Allen B. Wrisley Company, first as assistant to the late C. B. Robbins, Eastern sales manager, and later as sales representative in the Philadelphia area.

Previous to that, he spent several years with the Prince Matchabelli Company in the sales department.

### Dr. Cain Establishes Own Firm

Dr. Russell A. Cain, formerly president and scientific director of the Therapeutic Research Foundation, Inc., has announced the establishment of a consulting service specializing in drugs, foods and cosmetics.

Comprehensive advisory services are offered in connection with product development, labeling, manufacturing, control and research. Offices of the new firm are located at 3617 North Broad St., Philadelphia, Pa.

### Celebrates 50 Years with S & D

Adam H. Hoyer, is celebrating 50 years with Sharp & Dohme Inc., this month, he is a member of the cashier's department.

Mr. Hoyer was just twelve when he began his career with the company in 1899 as an errand boy at $2.50 a week. For 42 years, he had a perfect attendance record at Sharp & Dohme. He had never been sick and had been on the job every day of his career. Then, in 1941, he was hit by a truck and sustained three fractured ribs and a fractured pelvis. He took only four weeks to get back to work and begin a new record which, after eight years, is still intact.

### Dr. Waksman Honored

Dr. Selman A. Waksman received the 1949 APMA research award for his pioneer and fundamental research in the antibiotic field at the association's convention in Hot Springs, June 9-11.

### Young Wire Stitching Mach. Bought

James W. Brigham, president of Diagraph-Bradley Industries, Inc., manufacturers of stencil machines and equipment, has announced that his company has purchased the N. A. Young Wire Stitching Machine Company of Racine, Wis., and that a complete division has been set up at their main plant in Herrin, Ill., for the immediate production of Young machines.

Nick Young, founder of the N. A. Young Company, will head the Diagraph-Bradley Wire Stitching Machine division as sales manager under the direction of J. R. Arthur, vice president in charge of sales.

### Mahoney Promoted

Edward Mahoney has been appointed vice president in charge of sales and advertising for La Cross-Naylon. Mr. Mahoney joined the La Cross organization at the close of the war as field sales manager after having served for several years in Europe and the Middle East as a Lieutenant Commander under the Navy. Mr. Mahoney assumes his new position with a record of more than twenty years in sales and business management.

### Gardiner to Join Arden

Carl Gardiner has resigned as vice president in charge of sales and advertising for La Cross-Naylon, effective June 30, to become vice president and general manager of Elizabeth Arden. Mr. Gardiner has been with La Cross for the past twenty years.

### Foragers' Outing

The Foragers of America hold their annual outing at Travers Island, N. Y., the outdoor playground of The New York Athletic Club June 25. Harry Kunze, Roger & Gallet, is chairman of the entertainment committee.

### Park Back with Tangee

Stanley Park is back with the George W. Luft Company as director of the British Company and European manager. Mr. Park plans to sail for Europe in July to take over his position.

### Walker Appointed General Sales Manager of Pfizer

Fred J. Stock, vice president in charge of sales of Chas. Pfizer & Company, Inc., has announced the appoint-

CHARLES P. WALKER, Jr.

ment of Charles P. Walker, Jr., as general sales manager for the company. Frank F. Black succeeds Mr. Walker and becomes acting manager of the medicinal sales division.

Mr. Walker joined Pfizer's executive sales department in 1948 after having served as president of the Citro Chemical Company, during 1946-7. He is still president and a member of the board of directors of Citro Chemical Company, now a Pfizer subsidiary. Formerly Mr. Walker was associated with Merck & Company, as New York district sales and branch manager until 1946.

Mr. Black was formerly associated with Burroughs Wellcome & Company, in an executive sales capacity.

### Darr Joins Box Company

Charles W. Darr for many years associated with Harriet Hubbard Ayer, New York, has joined George H. Snyder Inc., 3645 Smedley St., Philadelphia. The Snyder company manufactures paper boxes.

### Dr. Naves on Essential Oils

A summary of the technology of essential oils has been written by Dr. Y. R. Naves of the research staff of L. Givaudan & Cie., Geneva, and associate of the University of Geneva. It is published by Masson et Cie., in Paris. The material, entitled Hulles Essentiales, forms an eighty page section of Volume XVI of Traite du Chimie Organique.

The author addresses his book to organic chemists and devotes himself to acquainting them with the highlights of the origin, manufacture, and use of essential oils.

# Stock Bottles

**that give your package**

**INDIVIDUALIZED DISTINCTION**

**–available in all popular sizes**

Add glamor and distinction to your package, without the costly investment of special design, by selecting one of the many artistic Swindell stock bottles . . . The four bottles illustrated are representative of a wide variety available for your choice . . . in sizes ranging from 1/8 ounce to 16 ounces.

**SWINDELL BROTHERS**
BALTIMORE, MD.
200 Fifth Ave., New York - Roberto Ortiz, Havana, Cuba

*When you think of bottles, think of*

# Swindell

### Commercial Solvents Names Carswell VP

The board of directors of commercial Solvents Corporation has announced the appointment of T. S. Carswell as vice president in charge of research and development.

Mr. Carswell has for the past three years been manager of the company's research and development department. He formerly was with Monsanto Chemical Company.

### Millmaster Takes Over Berk Sales

The Millmaster Chemical Corporation has been organized to act as exclusive selling agent for F. W. Berk & Company, New York. Robert J. Milano is president of the corporation which succeeds the Millmaster Chemical Company, and M. H. McAllister is executive vice president. Mr. Milano headed the Millmaster company and Mr. McAllister was managing director of berk, a post he will retain.

Other officers of the new corporation are Jerome F. McGinty, secretary; Arthur Smith, treasurer, and Charles L. Westerberg, assistant treasurer.

Millmaster has moved to occupy the sales offices of Berk at 420 Lexington Ave., New York.

### Joins Fritzsche 25 Year Club

Frank H. Lenz, a member of Fritzsche Brothers' shipping department is the latest member of that firm's Quarter Century Club, Mr. Lenz was feted at an Anniversary luncheon held at the New York Athletic Club presided over by the Company's president, F. H. Leonhardt.

### Dr. Leffler in Abbott Post

Dr. Marlin T. Leffler, formerly head of the organic research department at Abbott laboratories, has been appointed assistant director of research. Dr. Marvin A. Spielman, formerly group leader in organic research, has been named to succeed Dr. Leffler as head of the organic research department. Dr. Arthur W. Weston has been appointed assistant head.

### Ladwig Heads 17 Club

Edward G. Ladwig, vice president in charge of the International division of Bristol-Myers Company, was elected president of the Seventeen Club April 26.

This organization, whose membership is limited to seventeen, is composed of export executives of various companies in the drug and pharmaceutical field.

### New Squibb Coast Branch

Work has been started on a new branch of E. R. Squibb & Sons in Los Angeles on a four-acre site at Eastland and Jillson Streets. The building will replace the current Squibb branch operation at 1855 Industrial St.

According to T. I. McQuire, Squibb division sales manager the new buiding will be a 41,000 square foot sales warehouse and distribution center.

At the opening session of the Toilet Goods Association Convention at the Waldorf Astoria, New York, the House of Gourielli won the Charles S. Welch for its products. Shown here are Pierre Harang, chairman of the selection committee, presenting the award to Roy Titus, general manager of the House of Gourielli.

### Fitch Hall of Pharmacy Dedicated

The formal dedication of the recently completed Fitch Hall of Pharmacy and Harvey Ingham Hall of Science on the Drake University campus at Des Moines was held April 13.

A gift to the University by the F. W. Fitch Company, Des Moines, and Fred W. Fitch, chairman of the board, made possible the new functionally designed Hall of Pharmacy which bears their name. Mr. Fitch 79, is a poineer Iowa industrialist and founder of the shampoo and hair preparation firm.

The Hall of Science is named after the editor emeritus of the Des Moines Register and Tribune, Harvey Ingham, 90, and was made possible through a gift of the Gardner Cowles Foundation.

### Addresses States Pharmaceutical Associations

Charles F. Lanwermeyer, chief pharmacist of Abbott Laboratories addressed three state pharmaceutical associations in the Northwest during June. He spoke before the Idaho State Pharmaceutical Association, the Montana State Pharmaceutical Association and the Washington State Pharmaceutical Association.

Mr. Lanwermeyer has been with Abbott since 1927, and he has played an important part in investigating and developing the use of various fish liver oils as sources of vitamins A and D.

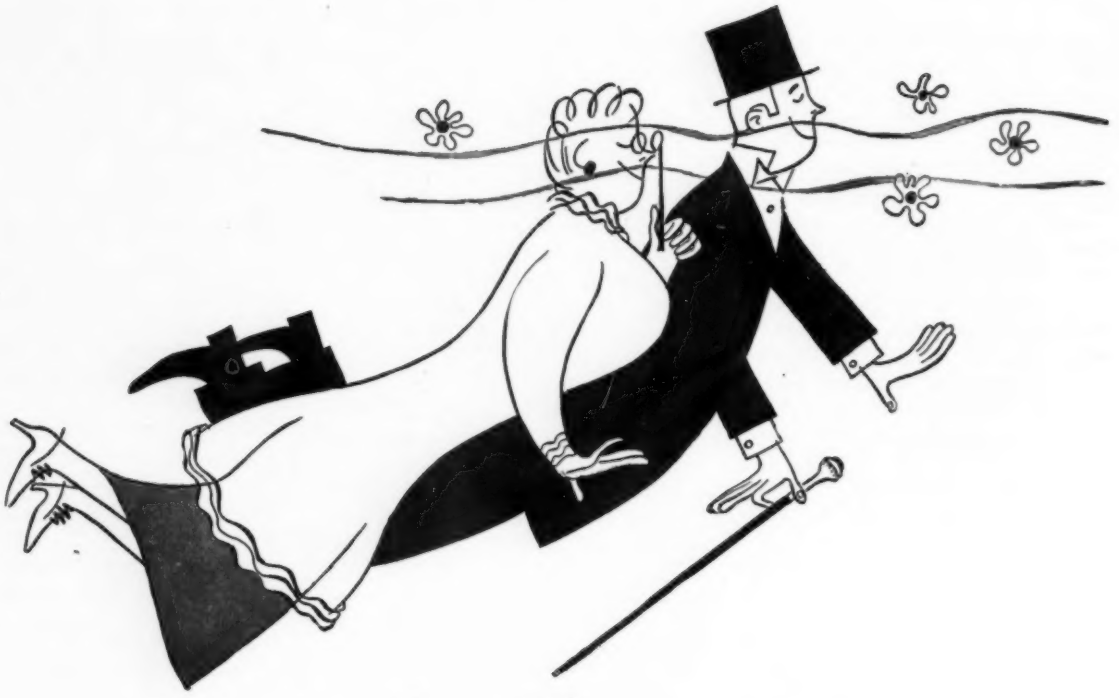
### Appointed Director of Rensselaer Plant

William J. Boegly has been appointed as director of the pharmaceutical manufacturing department at the Rensselaer, N. Y. plant of Winthrop-Stearns Inc.

Mr. Boegly, former plant manager at Frederick Stearns & Company in Detroit, has been acting as service engineer for Winthrop-Stearns manufacturing operations. In his new capacity he will be in charge of the recently completed building for the preparation of all Winthrop-Stearns' parenterals, ampuls and vials.

### Celanese Names Western Distributors

Celanese Corporation of America has completed arrangements with three Western firms to handle distribution of its organic chemicals on the West Coast. Mefford Chemical Company of Los Angeles will distribute Celenase chemicals for Southern California and Arizona. L. H. Butcher Company, San Francisco and Carl F. Miller & Company of Seattle will handle Celanese chemicals in their respective territories.



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## E. S. Browning Co. Acquired by Innis, Speiden

Innis, Speiden & Company, N. Y., acquired as a wholly-owned subsidiary, E. S. Browning Company, Inc., of San Francisco and Los Angeles, according to an announcement by W. H. Sheffield, president of the parent company.

Edgar S. Browning remains as president and general manager of the California firm and E. A. Smith, formerly with Innis, Speiden in New York as head of the gum departments, has joined the Browning organization and will coordinate the activities of the two companies. On the board of directors of the Browing company are: E. S. Browning, president: W. H. Sheffield, Jr., vice president of Innis, Speiden; G. S. Hamilton, treasurer and controller of Innis, Speiden; R. C. Palmer secretary and attorney; E. A. Smith, J. G. Markel and D. S. Cushman.

## Pacquin-Leeming Changes

J. H. McShane, president of the associated companies of Thos. Leeming & Company, and Pacquin, Inc., announces several changes in their organizations.

Charles F. Junod, former vice president of William Estey Company, joined the Pacquin-Leeming organization June 1. Alfred A. Doran, associated with the Schering Corporation during the war, and more recently with William Douglas MacAdams, Inc., has joined the Leeming organization in the expanding pharmaceutical branch of the business.

Harry Goodrich, vice president and director of Pacquin, Inc., has retired after 21 years with the company.

## Food Machinery Expands Phosphate Prod.

Newark, Cal., has been elected as the site of the new Pacific Coast phosphate operations of the Food Machinery and Chemical Corporation. The plant will adjoin the magnesium oxide plant now operated at Newark by the Westvaco Chemical division.

## Heads Avon-Allied Purchases

C. Monroe Wiegand, has been named director of purchases of Avon Allied Products, Inc. and its subsidiaries. He is now located at the company's offices at 30 Rockefeller Plaza, New York.

## Mixing Equipment Appointments

Two new field representatives have been appointed by Mixing Equipment Company, Inc., They are: Johnson

JOHNSON RONEY II

Roney II of Clearwater, Fla., and Roy A. Bass, the Industrial Sales and Engineering Company of Buffalo.

Mr. Roney has served as an engineer for over thirty years with such firms as RCA Manufacturing Company, Du Pont, Hercules Powder and the LaBour Company.

Mr. Bass heads sales and engineering. He was employed by Ross heater and Manufacturing Company, Inc., and also a director of distribution for Dresser Industries, Inc., for four years. Junior member of the firm is Kenneth C. Bass, who is a graduate mechanical engineer from the University of Kentucky.

ROY A. BASS

## Dr. Dudley Appointed Supervisor

Dr. James R. Dudley has been appointed Supervisor of New Product Development of American Cyanamid Company, and John D. McPherson has been appointed Supervisor of Market Research Activities of the Company.

Dr. Dudley joined Cyanamid in 1940 as research chemist. He has been primarily concerned with organic nitrogen compounds and synthetic resins, his publications and patents being principally devoted to amino and ion exchange resins. Mr. McPherson joined the company in 1945 after release from the Chemical Warfare Service as Lieutenant Colonel.

## Upjohn Adds Dr. Noonan to Staff

The appointment of Thomas R. Noonan, M.D., to the staff of the Upjohn Medical division has been announced. Dr. Noonan, a graduate of Middlebury College, and The University of Buffalo, College of Medicine in 1939, served in the Medical Corp of the Army from 1941 to 1946.

## Martin in Ungerer Chicago Office

Joseph R. Martin, for the past two years a sales representative in the New York area for Ungerer and Company, has been transferred to the Chicago office of the company.

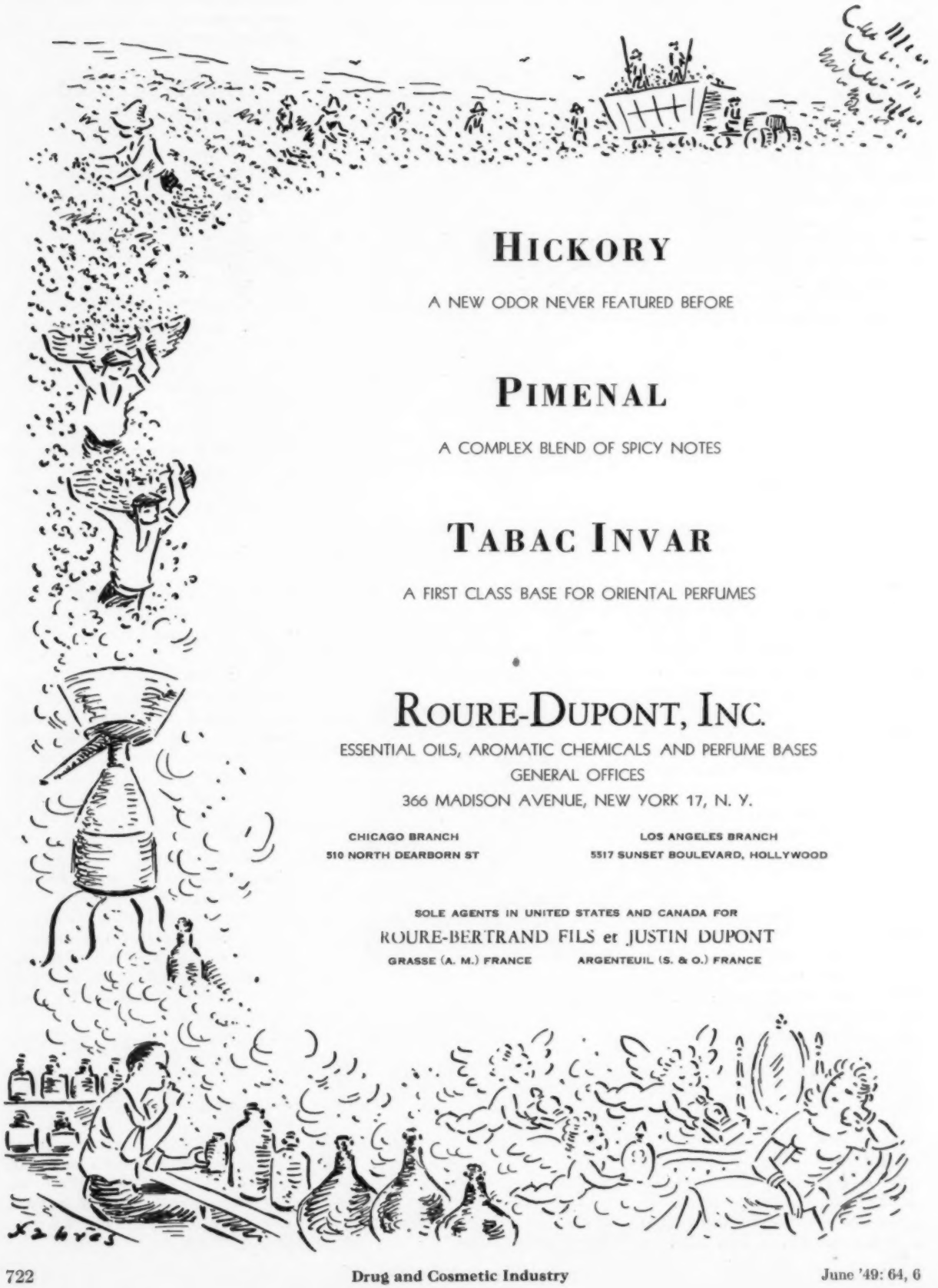
Mr. Martin will represent the company in the Chicago area and also in Wisconsin. He joins E. M. Tysdal, veteran sales representative who for the past forty years has been a well known figure in the Midwest essential oil circles.

## Merck Heads Mfg. Chem. Assn.

George W. Merck, chairman of the board and president of Merck & Co., was elected president of the Manufacturing Chemists Association at the annual meeting of the group held June 2 at Skytop, Pa. William M. Rand, president of the Monsanto Chemical Co., was elected chairman of the board of directors of the association, and retiring president Charles S. Munson, executive committee chairman of the U. S. Industrial Chemicals, Inc., was elected to the newly created position of vice-chairman of the board. Leonard T. Beale, chairman of the board of the Pennsylvania Salt Manufacturing Co., and Harold O. C. Ingraham, president of the General Chemical Company, were elected vice-presidents, and James W. McLaughlin, president of the Bakelite Corporation, was reelected treasurer. M. F. Crass, Jr., who was acting secretary, was named to that position.

## Package Machinery & Palmer Inc. Merge

The Package Machinery Company of Springfield, Mass., and Frank D. Palmer, Inc., of Chicago have announced the merger of their companies, subject to ratification by the stock holders.



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### Squibb Research Shifts

In a general regrouping of Squibb research responsibilities, the appointments of Dr. Geoffrey W. Rake as Medical Director and of Dr. Asger F.

DR. LANGLYKKE

Langlykke as Director of the Research and Development Laboratories have been announced by Carleton H. Palmer, Chairman of the Board of E. R. Squibb & Sons. These activities will be coordinated and directed by Roland J. Dahl, Vice President.

Dr. Rake has been with Squibb since 1937, directing research in microbiology. His work and publications are widely known in the scientific world and include contributions in the fields of achalasia of the cardia, nephritis, thyrotoxic heart, meningococcus, pneumococcus, measles, lymphogranuloma venereum, chemotherapy, and antibiotic substances. He is particularly well known for his work in bacterial and viral diseases and the chemotherapy of those diseases.

Dr. Langlykke received his B.S., M.S., and Ph.D. degrees from the University of Wisconsin, the last in 1936. After filling a number of research posts he became in 1943 a member of the staff of the North Regional Research Laboratory of the Bureau of Agriculture, and Industrial Engineer of the U. S. Department of Agriculture. His publications, including that on the chemistry and mechanism of fermentation, are widely known in scientific circles. He will maintain in his new position, Mr. Palmer said, his active direction of the Division of Microbiology in the Squibb Research and Development Laboratories.

### Hooker Sales Changes

The Hooker Electrochemical Company has announced the promotion of S. I. Anderson as assistant to the general sales manager with responsibilities in both eastern and western sales activities. Mr. Anderson, who has been with the Hooker sales department since 1933, has previously been its mid-west representative and mid-west sales supervisor. Prior to his present position he was assistant eastern sales manager.

T. H. Trimble, with Hooker since 1934 as a field salesman in several territories including New York State, Pennsylvania and the southeastern seaboard states, is now eastern sales supervisor. Mr. Trimble will be in charge of field sales activities and the company salesmen in the area from the eastern Ohio boundary thru the Atlantic states. Headquarters for both Anderson and Trimble will be at the Niagara Falls, N. Y. office.

Mr. Neil M. Barber, who has been with Hooker since 1941, and a sales representative for New York State and western Pennsylvania since 1946, will be assigned to the area comprising eastern Pennsylvania and the southeastern seaboard states.

### Gross Joins Specialized Inst. Corp.

K. Kennard Gross, previously coordinating engineer, Leeds & Northrup Co., has joined Specialized Instruments Corp., Belmont, California, as Eastern Service Engineer for Spinco Ultracentrifuges. He will be in Philadelphia. During the war, Mr. Gross was a project engineer at Wright Field, Dayton, Ohio, working on instrumentation for aircraft rotating and jet power plants.

### Williams Retires from Avon-Allied

John M. Williams retired June 1, as chief chemist of Avon Allied Products Co. He will continue with the company in a consulting capacity. Mr. Williams, who was located at the Suffern, N. Y. laboratories of the company has been succeeded in the position of chief chemist by Edward Jamus who has long been associated with Mr. Williams in the company.

### Centflor in New Location

Centflor Manufacturing Company has moved to 243 W. 67 St., New York. The form formerly was located at 442 W. 31 St.

### Names Rep. in Pa.

Magna Manufacturing Company, Inc., 444 Madison Ave., New York have appointed Dowdy Brothers, Arch St., Philadelphia as its representatives in the Philadelphia area.

### Butterfield in New Post

Everett R. Butterfield has been named assistant director of the professional department of Bristol-Myers Company, New York.

E. R. BUTTERFIELD

Mr. Butterfield is a native of Ottawa, Ill., and a graduate of the Danforth School of Pharmacy, Fort Worth. Before joining Bristol Myers in 1948, he had extensive experience in the drug field, both in detail work and drug store management.

### James Ness Promoted to Vice President

Mrs. Avery Robinson, chairman of the board of directors of Mary Chess, Incorporated announces the appointment of James A. Ness as vice-president in charge of plant operations.

Mr. Ness has been connected with Mary Chess since August 1948 in the capacity of production manager, and is well known in this industry for during the past ten years he has been associated in a similar capacity with such firms as La Crosse, Revlon, Miners Cosmetics and Carter Products.

### Named Gen. Mgr. of Canadian Branch

G. D. Lawrence, president of Davis & Lawrence Company, has announced the appointment of Frederic W. Ballentine as General manager of the company's Canadian branch with laboratory facilities located at Montreal, Quebec.

Mr. Ballentine, formerly general sales manager of Lambert Pharmacal Company, succeeds H. L. Davis, who after fifty years of association with David & Lawrence, is retiring as general manager of the Canadian branch. Chester A. R. Duffin, who has been with the Canadian branch for the past forty-seven years, will continue to serve as sales manager of the company and assist Mr. Ballentine.

## Schering Names Hunt Foreign Sales Manager

Jay R. Hunt, who for the past three years has been division manager for the East Coast of South America was appointed foreign sales manager of Schering Corporation.

Mr. Hunt assumed his new duties in May and is now directing the activities of the foreign sales division, serving under Francis C. Brown, president and Dr. John N. McDonnell, vice president of Schering. He will be aided by Mr. Anschel and Mr. Volentine, assistant foreign sales managers, in the completion of the duties and responsibilities in the foreign sales and promotion fields.

## Gair Company in South

George E. Dyke, president of Robert Gair Company, Inc., has announced the incorporation in Delaware of a subsidiary, Fibre Board Container Corporation, which has acquired the assets and business of Fibre Board Container Company, with shipping container plants in Richmond and Martinsville, Va. The properties have been operated for over thirty years by the Donati family and their acquisition by Gair expands its container business in an area not previously served, accessible to its new southern kraft mill.

Gair holds all the common stock of the new corporation, and the previous owners will retain a substantial investment in the business. All the executives of the old company are continuing as directors or executives of the new company.

## Carbide Opens New Research Center

One of the most versatile and up-to-date chemical research centers in the world is being put into operation by Carbide and Carbon Chemicals Corporation, according to Dr. G. O. Curme, Jr., vice president of Carbide and Carbon Chemicals Corporation.

The new organic chemical research center is located on a 140 acre tract near the company's South Charleston, W. Va., plant. Construction was begun in March 1947. When finally completed, it will be the largest single laboratory project the corporation has ever undertaken.

The laboratory building proper is designed as a three-story T-shaped structure of steel and brick, 325 feet long by 96 feet deep. It contains 69 individual laboratories and 48 offices, a large scale laboratory, a library, an auditorium seating 125, and necessary storage and service rooms.

## Wilcoxon Heads Powell Subsidiary

Benton Wilcoxon has been appointed general manager of the John Powell Chemical Company, Inc., Huntsville, Ala., a newly formed subsidiary of

BENTON WILCOXON

John Powell & Company, Inc., New York.

Mr. Wilcoxon, an M.I.T. graduate served on the WPB chemical section during the war and later was consulting engineer to the Army in Germany.

## Philadelphia A.Ph.A. Elects

The following officers of the Philadelphia branch of the American Pharmaceutical Association were elected at the May 12 meeting. President, Robert L. McNeil, Jr., vice president in charge of production and development of McNeil Laboratories: First vice president, Paul W. Wilcox, director of pharmaceutical research, medical research division of Sharp & Dohme; Second vice president, Harold A. Clymer, Laboratory administrator, research laboratories of Smith, Kline & French Laboratories; Secretary-treasurer, Dr. Joseph E. Sprowles, professor of pharmacy, Temple University School of Pharmacy; Delegate, Professor Linwood F. Tice, assistant dean, Philadelphia College of Pharmacy and Science.

## Dr. James Dolan

Dr. James T. Dolan, veterinarian who has been associated with the Lederle Laboratories division, American Cyanamid Company, for 28 years prior of his retirement last summer, died May 24, at Nyack Hospital, Nyack, N. Y.

Dr. Dolan worked for the Government when he first came to Lederle and became associated with its verterinary laboratories in 1924. He was in charge of hog cholera serum production until 1942.

## Fragrance Foundation

The Fragrance Foundation designed to consist of every manufacturer of perfume products and whose object will be the nationwide promotion of the sale of such products, has been formed, according to J. S. Wiedhopf, president of Parfums Ciro, Inc.

Mr. Wiedhopf has been serving as chairman of the Committee on The Use & Marketing of Perfume Products. He announced that before July 1, a general organizational meeting will be called of all manufacturers of perfumed products. In the meantime, an outline of the plans of The Fragrance Foundation is available to all in the industry interested. Requests should be addressed to Miriam Gibson French, 333 E. 53 St., New York Co-ordinator.

## Higbee Joins Ferd Mulhens

Oscar Olin, president and general manager of Ferd, Mulhens, Inc., has announced the appointment of Charles Higbee as sales representative in the New England Territory.

## Booklet on Glycols

Uses and properties of eight new glycols are described in a new eight page booklet, "Higher Diols" published this week by Carbide and Carbon Chemicals Corporation. Specific glycols described include butanediol-1, 3; pentanediol-2, 4; the two six-carbon diols, 2-methyl-pentanediol-2, 4 and hexanediol-2, 5; heptanediol-2, 4; ethylhexanediol; and two interesting new substituted 1, 5-pentanediols. This booklet gives complete physical properties for the higher diols, comparing them to the lower, more familiar 2- and 3-carbon glycols and glycerol. Uses have been tabulated by product and industry for quick reference. Copies of the booklet can be obtained from the company by requesting Form 6719.

## Chilean Doctor Appointed by Schering

Dr. Eduardo Juliet, well-known Chilean doctor has been appointed to the foreign sales division of Schering Corporation.

Dr. Juliet received his medical education at the University of Chile. He practiced in Santiago for over twelve years and is widely kown and recognized for his scientific knowledge throughout Latin America, as he has represented his country at various international medical conventions.

### Edward S. Rogers

Edward S. Rogers, chairman of the board of Sterling Drug, Inc., and founder of the law firm of Rogers, Hoge & Hills, New York, died May 22 after

EDWARD S. ROGERS

a long illness. He was 74 years of age. Mr. Rogers, who was a specialist in trade-mark law, was associated with Sterling Drug for almost half a century, becoming board chairman in 1941. In addition to the New York law firm he also established the Chicago law firm of Rogers & Woodson. He retired from active practice in 1941, but continued as counsel for both these firms.

Mr. Rogers was the author of "Good Will, Trade-marks and Unfair Trading," published in 1915. He lectured on trade-mark and copyright law at Yale, Georgetown University, and the Universities of Michigan, Chicago, and Pennsylvania. He successfully defended the constitutionality of California's fair-trade act before the Supreme Court and had served the government in trade-mark and copyright matters at various times. He was a member of the Patent, Trade-Mark and Copyright Board of the Federal Trade Commission in 1917 and 1918, and of the National Research Council's committee on synthetic drugs in 1919.

### Dr. Shope Joins Merck Institute

Dr. Richard E. Shope has resigned from the Rockefeller Institute for Medical Research and joined The Merck Institute for Therapeutic Research as associate director.

Associated with Dr. Shope is Dr. Laurella McClelland. Dr. McClelland obtained her M. D. from the University of Toronto in 1939, and under a fellowship grant, spent a year in chemotherapeutic research at the Banting Institute. Since that time she has been on the staff of the Connaught Medical Research Laboratories of the University of Toronto.

### New Lectrodryer Sales Agents

The appointment of two new sales agents has been announced by Pittsburgh Lectrodryer Corp. They are, The Kerr Machinery Company, E. Fort and Beaubien Sts., Detroit 26, and G. B. Houliston, 707 Race St., Cincinnati 2. They will act as exclusive agents for Lectrodryer in the Detroit and Southern Ohio districts.

### Hooker Promotes George

William F. George, New York sales supervisor since 1942 has been named New York district sales manager for the Hooker Electrochemical Company. His headquarters will continue to be at 60 E. 42 St., New York.

### Schering to Distribute Sevinon Capsules

Dr. John H. Wallace, Jr., president of Decyl Pharmacal Company, Princeton, N. J., has announced the licensing of the Schering Corporation, Bloomfield, to distribute Sevinon Undecylenic Acid capsules under the Wallace patent application.

### Riedweg A Visitor Here

Jacques Riedweg of Givaudan & Cie., Paris was a visitor in the U. S. during the month of May. This was Mr. Riedweg's second trip to this country since the end of the war.

### Daniel Beyer Recovering

Daniel Beyer of P. R. Dreyer Inc., New York is recuperating from a gallbladder operation that incapacitated him during the latter part of May.

### Serves in New Winthrop-Stearn Spot

Richard J. Servis has been appointed head of the newly organized manufacturing department at the Rensselaer, N. Y. plant of Winthrop-Stearns Inc., for the development and manufacture of neosynephrine and other products.

Mr. Servis has been with the Rensselaer plant since 1943 when he transferred from Salvo Chemical Corporation in Wisconsin. At that time he took over the development of Winthrop penicillin manufacture.

### Harry S. Wells

Harry S. Wells died at his home in Philadelphia May 11, 1949. For the past thirty years, Mr. Wells represented the Daggett & Ramsdell Company covering the South and the East Coasts.

### Arthur C. Boylston

Arthur C. Boylston, president of Mallinckrodt Chemical Works, died May 10 at his home in St. Louis, after a long illness. He was 66 years old.

ARTHUR C. BOYLSTON

Born at Milton, Mass., June 23, 1882, Mr. Boylston was graduated from Harvard University in 1903 with an A. B. degree, receiving an A. M. degree in 1906. He joined Mallinckrodt in 1908 as analytical chemist, rising to the position of member of the board of directors in 1922, and that of general manager in 1925. He became president of the company in 1941.

Mr. Boylston served as president of the American Drug Manufacturers Association from 1935 to 1937. He was a member of the drug resources committee of the armed forces during the recent war, was a councillor of the American Chemical Society, a fellow of the Association for the Advancement of Science, and a member of the American Institute of Chemical Engineers. Mr. Boylston served as chairman of the St. Louis section of the American Chemical Society, and as president of the University and Harvard Clubs of St. Louis.

In 1920, Mr. Boylston married Isabel Gray, who survives him. He is also survived by a son, Arthur Gray Boylston, of Needham, Mass.

### Dr. Kurotchkin

Dr. Timothy John Kurotchkin, research chemist of Lederle Laboratories died April 24, at the Good Samaritan Hospital, Suffern, New York.

The Siberian born scientist had been associated with Lederle for the past ten years, and had been in charge of typhus vaccine production for the company during the war years. He also did important work on spotted fever, lymphogranuloma venereum and the psittacosis group of diseases.

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### Clean, Fast, Accurate

The dust collector hoods and drip-free shut-off gates at the filling stations of the Model JN insure clean operation. Its fully automatic features provide filling speeds up to 120 containers per minute. And it is built for accuracy — maintains the closest possible commercial tolerances — can be quickly adjusted by the simple turn of a knob to control weight variations due to change in product density.

## With a Fully Automatic Model JN Packer, Filler, Packer-Weigher

Used as a Volume Packer, or Volume Filler, or Packer-Weigher, the fully automatic, four station Model JN fulfills every advanced requirement in the handling of a variety of packaging problems — will operate on most types of dry powdered or granular materials, using round, square, rectangular or irregular containers with equal facility.

Entering the machine in single line, containers are automatically separated into two lines progressively and, after being filled, are re-grouped into a single line for hand or automatic closure.

The Model JN may be equipped to fill at all four stations if reasonable weight variations are permissible; otherwise, containers are bulk filled at first two stations and accurately weighed at the last two stations.

Once it is put into operation, the fully automatic features of a Model JN Filling Machine plus its speed, accuracy and clean operation quickly return the machine's purchase price through savings in labor costs alone.

It will pay you to get full details concerning how the fully automatic Model JN can cut your packaging costs. Write today.

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# Production Forum

By FRANCIS CHILSON
Industrial Consultant

### Straws in the Wind

At the Los Angeles meeting of the APM I stated that among the risng costs of the future would be that of fume, odor and effluent control. In my judgement the time is rapidly approaching when communities will no longer permit their nylons to distintegrate in a contaminated atmosphere. People will no longer permit industry to discharge noxious fumes into the air, which on damp foggy days, can sometimes kill people as fumes did last winter in Donora, Pa. Not for much longer will people continue to drink or swim in contaminated water.

The establisment of purification means for all gaseous, fluid and solid effluents is costly but it is a justifiable cost. Morally no firm should do anything which is injurious to neighbors whether existing law protects their neighbors or not. Yet I know several firms who have knowledge that effluents from their plants are destroying wells in their vicinity and yet they won't do anything about the condition because their neighbors can't yet prove that the stated plants are the source of their troubles, and no zoning ordinances are being violated simply because in those areas there aren't any. The intelligence of managements which permit such conditions to continue is open to question. Invariably they are the very first to howl bloody murder when the government forces them to clean house. If industry doesn't want increasing government interference in its business whyinhell does it tolerate conditions which will inevitably bring that interference sooner or later? If ever industry in this country is completely socialized, as so many business men fear it will someday be, historians of the future in looking back over the evidence will say, "They had only themselves to blame."

### From the New Yorker

"In 1948 the individual was busy trying to retain his status. The tide runs strongly against him. He fights for the security of his person, for the freedom of his conscience, for the right to pursue happiness, for privacy, for dignity, for the right to speak and the right to listen and the right not to listen when the speaking is too dull or too loud. Everywhere the individual feels the state crowding him, or the corporation crowding him, or the church crowding him or the home crowding him. The enigma today is not the energy locked in one atom, but the strength stored in a single man—the ability of this man to survive, when he is always half submerged in something bigger (but not really) than he is." Amen. And it looks as if the pressure in '49 will be worse. God help us!

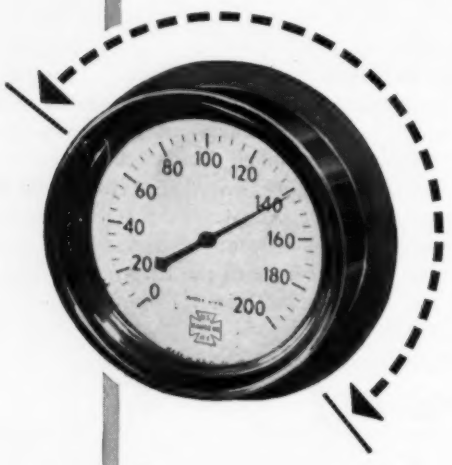
### Odds & Ends

Even with the best kind of heating in winter, cold spots sometimes prevail in certain areas for limited periods of time, a condition leading to employee complaints. Such conditions can be corrected through the use of electrically heated, portable radiators, which are thermostatically controlled and perfectly safe. Units of this type are made by Burnham Boiler Corp., Yonkers, N. Y. Also by Koral Electric Mfg. Co., 43-20 Van Dam St., Long Island City.

Stuyvesant Engineering Co. has built an automatic feeder for its granular product filling machine. This is a volumetric fill job good for bath salts and the like.

Simmons Machine Tool Corp., 1010 N. Broadway, Albany, N. Y. have introduced an adjustable, automatic powder filling machine for filling minute quantities of powder into vials and ampoules—penicillin and such.

Wrap-King Corporation, W. Springfield, Mass. has introduced a machine for automatically wrapping round discs and packages such as cakes of soap, face powder boxes and so on. Thermoplastic and other papers may be used as wrapping media. Production claimed is from 60 to 150 units per minute. The machine is adjustable.




# *safely* CAN YOU WORK YOUR DRIER ROLLS AT Higher Steam Pressures?

Production increases up to 60% have been reported after Lukenweld Jacketed Steel Drier Rolls, operating at elevated temperatures, have been installed.

## High pressures, possible with Lukenweld Rolls, boost output

First question to ask is, "Can our old rolls be *safely* worked at higher pressures?" Some operators report unfortunate experiences when they tried; failure of rolls damaged other rolls and shut down entire machines. Often the insurance companies will not permit any increase in pressure.

Lukenweld Drier Rolls are predictable, because they are steel plate construction. Designed for pressure work—as much as 350 psi. and over—they are SAFE. Ask your insurance company what they know about Lukenweld Drier Rolls.

Positive removal of condensate and the higher steam velocity obtained with Lukenweld Jacketed Drier Rolls make them better workers at any steam pressure. Reduction of film, dead steam, entrapped air or other noncondensable gases contributes to their high efficiency. Temperatures are more even across roll faces.

Lukenweld Jacketed Drier Rolls are offered in diameters from two feet to over twenty feet. They are described in Bulletin 358. For a copy, write Lukenweld, Division of Lukens Steel Company, 482 Lukens Bldg., Coatesville, Pa.

*We'll lend you "LUKENWELD", a 16mm motion picture with sound, highlighting our methods, facilities and products. Running time: 20 minutes. Write for booking date.*

LUKENS
LUKENWELD DIVISION

DESIGNERS, ENGINEERS AND MANUFACTURERS OF MACHINERY

The Roto-Flo Pump Corp., N. Water St., Milwaukee has introduced a pump, which it is claimed, will pump anything dry or wet that can be forced through a large pipe line. It was designed originally for pumping fleshings in a tannery and it might be usable for handling drug marc, gland and other meat wastes, heavy slurries, etc. The intake is a hopper about a foot and a half square. Material falls on a vaned rotor contained within a cylindrical housing. The vanes force the material through an annular space between the rotor and the housing and into the discharge pipe—this being usually six inches. With a five horsepower motor it will pump against a seventy-five foot head. Heavier jobs are available. Wouldn't be surprised if this job could also be made to pump free flowing powders that are not too abrasive such as talc and granular materials. Worth looking into.

Plants that burn coal and lack facilities for dumping hopper-cars can now do so through the use of a wide, portable conveyor belt designed to fit between rails, so that it can be positioned under the car hoppers. The belt is inclinable so that it can be made to discharge up to a height of 35 inches above ground level. Made by Bearing and Transmission Co., Findlay, Ohio.

Mechanical Division of General Mills, Minneapolis, Minn., is turning out a lot of well designed equipment. Among their equipment you could use is their finished edge carton former for setting up set-boxes. Christmas set and soap assortment boxes can be set up by this means.

Pallet racks for stacking partly filled and pallets carrying dissimilar loads can be obtained from Equipment Manufacturing Co., Detroit 5. The Borne Co. Kellogg St., Covington, Ky. makes pallets equipped with folding legs, which, when opened, form their own racks.

Look into the filling machine made by G. Diehl Mateer & Co., Lincoln, Hiway, Devon Pa. This machine is the only one I know of which will fill liquids, ointments and creams and powders. On dry powders, extreme filling accuracy is claimed. I am informed that the machine has been used for filling penicillin.

Adolph Gottscho Inc., 188 Duane St., New York 13, is offering the Corliss Coder a simple little machine for coding small labels, especially ampoule labels. A number are in use and the boys tell me they are pretty slick. Change over time is ten minutes and label size is adjustable.

Weaver Machine Co., York, Pa. offers a machine for painting bands on floors to delineate aisles, etc. The operator does not have to bend his back.

To get away from pallets altogether, which, in many bulk warehousing operations is a very good thing to do, the Hyster Co. has developed a new grab for its line of lift trucks. This grab is designed to grab a stack of paperboard cartons by the sides. The grab opens from a minimum of fourteen inches to a maximum of fifty-nine inches. Loads up to 1700 pounds can be picked up and stacked. The same outfit makes grabs for handling drums and other cylindrical containers.

Prufcoat Laboratories 63 Main St., Cambridge, Mass. sells coatings for corrosive conditions. These coatings are highly resistant to strong acids and alkalis. Might be good for lab table tops.

Bartelt Engineering Co., Rockford, Ill. makes an automatic machine, which draws paper from a roll, makes envelopes, fills and seals them.

The Sandvik Steel Co. Inc., New York City has built a stainless steel conveyor belt for cooling margarine and gelatine. The belt actually floats on water contained in tanks beneath it. Supplemental air cooling is provided. Several years ago I built a similar cooling belt for cooling a face cream that was so delicate, the emulsion would break if cooled rapidly by ordinary refrigeration means. Many creams so cooled do in fact become granular in structure. The idea worked very well. In my gadget water flowed countercurrently around the jars. In this job the coolant does not come in direct contact with the product.

For sorting dry materials according to their varying densities, Electric Sorting Machine Co. of Grand Rapids, Mich. has introduced a combined pneumatic separator and conveyor. It is designed primarily for seeds but there are a number of drug applications in which it might be used.

A portable steam jet floor cleaning machine designed to wash floors with hot detergent solutions is made by Livingstone Engineering Co., Worcester, Mass.

*The following information is supplied by manufacturers of the equipment described and claims made below by these manufacturers are passed along for what they are worth. Presentation of such notice in this department is not to be taken as endorsement of the claims or of the equipment.*

### Table Model Shredder

Confidential paper, waste paper, etc., can now be converted into unrecognizable shreds usable as high grade packing material, by being fed into a new table model shredding machine manufactured by Shredmaster Corp., Brooklyn 5, N. Y. The shreds of paper that result are dustless, uniform in width and are used for protecting perishable or breakable goods during shipment.

The machine is noiseless, has complete safety devices, requires no skill to operate, has a 14 inch throat and a 1 H. P. reversing motor which can be plugged into any lighting outlet. The paper is shredded lengthwise with the feed into 1/16″ widths and any desired multiples, at capacities up to 600 lbs. per hour. Maintenance is negligible as a rotary shearing action makes it necessary to resharpen the hardened knives only about once every four years under average conditions.

This table model can be used to shred sheets, rolls, small pieces, crumpled waste, newspaper, wax paper, tissue paper, pass books, cards, labels, tickets, transfers, premium packages and a variety of non-paper materials, including foil and cellophane.

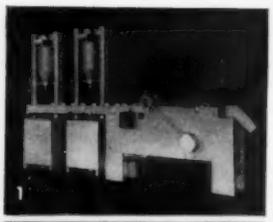
# THE S&S LINE

## FOR BETTER PACKAGING

Whether your product goes to the consumer in bottles or cans, odd shapes, boxes or bags, there's an S & S packaging machine with speeds to suit your needs.

Our Engineering staff is always available to help in the solution of your packaging and filling problems.

*Write for further information*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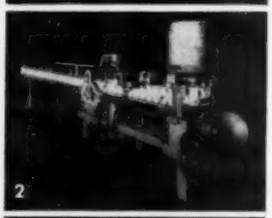
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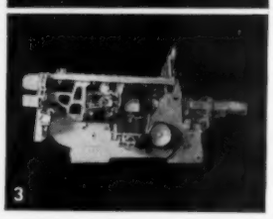
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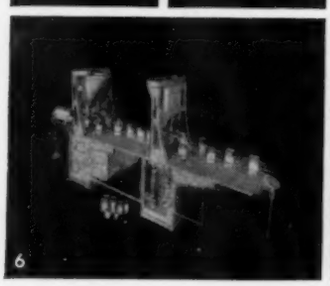
1. Bag & Envelope Sealer
2. Neverstop Carton Filler & Sealer
3. Automatic Tight Wrapper
4. Universal Filler
5. Stokeswrap Packaging Machine
6. Automatic Double Unit Filler
7. Duplex Packer & Weigher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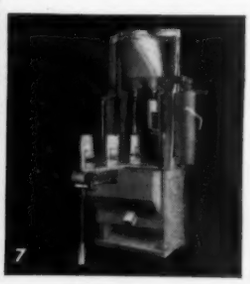
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STOKES & SMITH Co

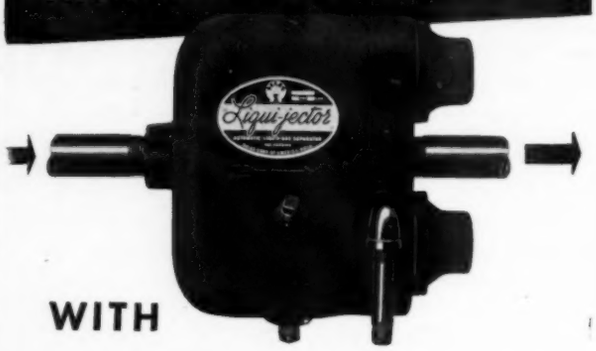
PACKAGING MACHINERY — PAPER BOX MACHINERY

*(A wholly owned)*

*Subsidiary of Food Machinery and Chemical Corporation*

**4912 Summerdale Ave., Philadelphia 24, U. S. A.**

# KEEP OUT LIQUIDS AND DIRT FROM AIR AND GAS LINES




WITH

# SELAS

## *Liqui-jector*

**Water and water-oil emulsions whether in the form of mist, droplets or slugs are removed automatically and continuously from compressed air or gas lines by the newly designed Selas Liqui-jector.**

**Liqui-jectors are utilized in precision pneumatic operations that require positive conditioning of air or gas. Typical applications are in liquid aerations, agitations, drying, spraying, instruments and pneumatic mechanisms.**

**Phase separation and liquid ejection are accomplished by two ceramic tubes; one water-repellent, the other water permeable but air-impervious. Compressed air or other gas passes through the first tube where it is stripped of its aqueous contamination and dirt. Moisture drops to the bottom and drains through the second tube without loss of air.**

**The water ejection rates for the three sizes of the equipment vary from 0.5 to 2.5 gallons per 24 hours.**

**The Liqui-jector acts also as a filter, removing atmospheric dirt and finely divided solid particles, even finer than 100 microns in diameter.**

**The housing of the Liqui-jector is cast bronze. There are no moving parts, traps, cocks, or shutoffs in the Liqui-jector. Maintenance is limited to periodic inspection and removal of accumulated dirt.**

**Technical details are available in a bulletin which will be sent upon request.**

SELAS CORPORATION OF AMERICA

PHILADELPHIA 34 · PENNA

### Tablet Filler

McKay-Davis Chemical Corporation has introduced a low priced machine to fill coated and uncoated tablets of various shapes and sizes. It is easily operated and does not require vibrating of tablets, thereby

eliminating breakage. Tablets are never exposed to metal which avoids any possibility of contamination and marking by metallic contact.

This machine has been in actual use for some time at the McKay-Davis Chemical Corporation plant and has proven itself highly efficient, handling over 35 bottles of 100 tablets per minute. The machine is easily adapted to a production line and can be quickly adjusted to handle various sizes and shapes of bottles and containers. This machine known as the Dismat Counting and Filling Machine on which patents are pending is now being placed in other pharmaceutical houses through the Dismat Corporation of Toledo, Ohio, an affiliated company.

### Drum Pump

A special nylon cord, neoprene coated diaphragm which is very strong and stands up under gasoline and all motor oils, is the outstanding feature in the new No. 700-B Refueling pump. Now available for immediate shipment from the General Scientific Equipment Co., 2700 W. Huntingdon St., Philadelphia 32, Pa.

For pumping from drums and tanks to tractor trucks or cars. The Hose is approximately 8 feet O.A. and has a static wire to lessen fire hazard. Special tube is provided for motor oils.

For underground and skid tanks. Pump is ideal for underground work, as it has very high suction and is self-priming. Automatic drainback feature permits draining of hose and pump back into tank. Lower casting is threaded for 1½" and 2" pipe. Will pump approximately 7 gallons per minute.

Each pump is fitted with an adjustable suction pipe and hose. Shipping weight 15 pounds.

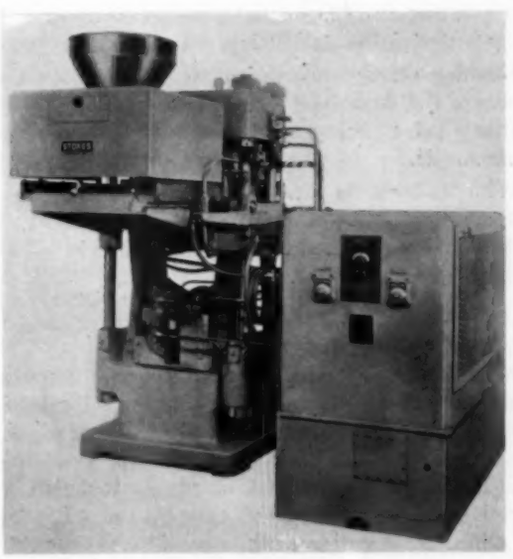
### Closure Press

The redesign of the fully automatic 50 and 150 ton Closure Presses for producing closures or threaded parts in large quantities at low cost is announced by the F. J. Stokes Machine Co., Philadelphia, Pa.

Self-contained, compact, easy to install, set-up and change over, the new Stokes Closure Presses require only 15 seconds plus curing time to automatically load, close, open, unscrew, and eject closures. Production is high, e.g.: 5400 24 mm. closures molded per hour on the 150 ton model, and fewer cavities are required for a specified daily output.

The new features include a completely redesigned die transfer and rack cylinder assuring trouble-free operation; electrical connections of the plug-in type simplifying set-up and maintenance of electrical circuits; heat resistant synthetic rubber stripper bars eliminate the possibility of cap spoilage and assure positive removal of caps from the forces; stripper bars are positively aligned by a single adjustment; and an improved unscrewing mechanism.

Designed to take a maximum mold or die area of 12" x 18½" or 19½" x 24" for the 150 ton model, and for either steam or electric heating, Stokes fully automatic Closure Presses are highly efficient, high production



units capable of producing closures at extremely low costs.

Complete specifications will be sent on request by writing to the F. J. Stokes Machine Co., 5932 Tabor Road, Philadelphia 20, Pa.

### Jacketted Stainless Steel Mixer

This polished stainless steel mixer was built by L. O. Koven & Brother, Inc., Jersey City, N. J., for use in mixing pastes, glue, adhesives, sizes and other heavy or thick materials.

It is designed for operation at atmospheric pressure with 15 p.s.i. steam or hot water in the jacket. The U-type agitator, which simultaneously stirs and removes the material from the sides and bottom of the kettle, assures uniform, rapid heating and mixing without burning or caking. The agitator is driven through the gear mechanism by a chain and motor.

The water-tight cover, flush bolted to top of the kettle, is fitted with a swing-bolted manhole, a thermometer well and two "blow-out" pipe openings. A water gauge with stainless steel fittings is located on the jacket.

Running off the working mixture is regulated by means of the flush type stainless steel plug valve and sanitary valve arrangement mounted in the bottom of the kettle.

With suitable modifications in drive mechanism and agitator design, this mixer is adaptable for use in the mixing of practically any thick or viscous material.

### Hy Speed Mill

Manufacturers seeking reduced costs and improved grinding efficiency will be interested in a new Production Mill recently perfected by Hy-R-Speed, Inc., Los Angeles, California. Features of the new Hy-R-Speed Mill include uniform output, sturdy construction, low initial cost, portability, and compactness. Efficient, simplified construction permits continuous economical operation, fast external grind adjustment (in operation or not) and quick, easy clean up. Maximum output is afforded by small horsepower motor. Smooth operation keeps noise and dust to a minimum.

Operating principle is simple but effective. Two small abrasive stones, one stationary, the other rotating at high speed, produce extremely fast, efficient grinding, shearing, and dispersing action. This disintegrates, emulsifies, mixes, homogenizes. Mill is available with or without inside stainless steel finish, in a wide range of capacities to suit most requirements.

Processors have found the new Hy-R-Speed Mill exceptionally effective for preparing pharmaceuticals, proprietary medicines, medicinals, face powders, pigments, talc, fillers, cosmetics, chemicals, and drugs of all kinds.

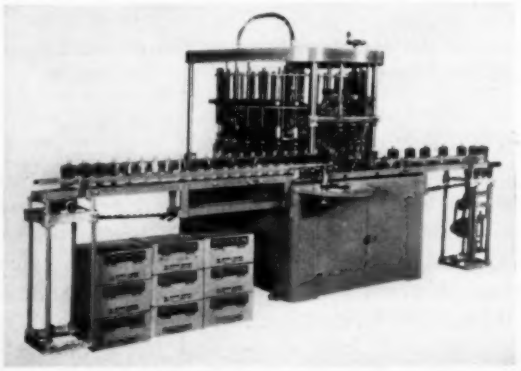
Manufacturers state that a remarkable variety of wet and dry materials have been successfully, efficiently handled by the Hy-R-Speed Mill. Special grinding surfaces have been developed for use in cases where regular stones are not practicable. Processors with difficult mixing or grinding problems are invited to submit samples to H-R-Speed, Inc., 1127V Riverside Drive, Los Angeles 31, California, for experimental processing without obligation.

### Rotary Liquid Filler

The trend in packing plants continues toward greater production at lower operating costs. In keeping with this condition, Mr. Herman Manas, President of MRM Company, Inc., 191 Berry Street, Brooklyn, N. Y., introduced their new 30 spout, fully automatic liquid filler.

The new model identified as the Model 48 (30), is capable of filling containers from fractional ounces to gallons, with thin, viscous or foaming liquids, in metal or glass co tainers. On actual test, the Model 48 (30) filled 3 ounce containers at a rate of 250 per minute.

The production range specifications as claimed by the company are 250 fractional ounces per minute, 180 pints per minute, and 150 quarts per minute. Half gallons and gallons can be filled up to 45 per minute using every other spout. These figures are based on water. The same principle of all MRM fillers is true of the 30 spout filler. This permits quick change-over from one size container to another with no skilled help.



### New Stokes Multiple Effect Vacuum Water Stills

Designed to produce highest purity distilled water, by utilizing low pressure exhaust steam as the heating

medium, the completely—new Stokes Multiple Effect Vacuum Water Still is now available for general industrial service.

The new Stokes water stills can be operated by steam at low pressures discarded by plants from process equipment vessels, turbines, or steam pipes. Models range in capacity from 150-1000 gallons per hour.

Of particular importance is the high heat transfer coefficient through the design characteristics of the inside and outside calandrias. Another outstanding feature is the use of special double centrifugal entrainment separators, assuring water of highest purity.

Stokes Multiple Effect Vacuum Water Stills are furnished complete with fully automatic controls arranged to maintain a constant level in the distilled water storage tank. The conductivity of the distilled water coming from the still is also automatically recorded.

With capacities from 150 to 1000 gallons per hour, Stokes vacuum water stills are available in either single, double, or triple effect models. Construction can be of stainless steel or monel metal to meet special requirements.

Detailed data covering the new Stokes Multiple Effect Vacuum Water Stills will be furnished by the F. J. Stokes Machine Company, 5932 Tabor Road, Philadelphia 20, Pa.

### 40,000-RPM Preparative Centrifuge

Application of forces up to 125,000 times g on 150 cc of material, and 60,000 g on quantities ranging upward to 1100 cc are the purposes of the new Model L Spinco Preparative Centrifuge. Made by Specialized Instruments Corporation, 639 O'Neill Ave., Belmont Cal. The unit, which is completely housed in the 25-by 30-by 36-inch enclosure is of the vacuum-chamber type (to prevent frictional rotor heating) with a two-stage mechanical pump creating a usuable vacuum within 5 min. of starting.

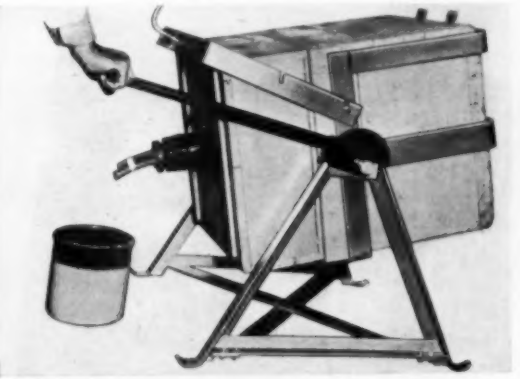
Automatic operation of the machine has been promoted with the provision of an automatic electronic control which accurately limits motor current during starts; by an automatic speed control which holds running speed to its preset value; automatic braking at rates which can be preset; and a device which automatically shuts the centrifuge down at the conclusion of a run in addition to a time-switch for setting the actual run length.

Safety devices are included to limit operation to safe speeds for each size rotor; to prevent operation unless the rotor chamber is properly evacuated; to make impossible the opening of the vacuum chamber while the rotor is operating; and to provide an indication by warning light when the level of the oil supply falls below a safe operating point. The rotor chamber is formed by a 1½" thick double armor-steel guard.

The geared drive mechanism operates with all moving parts in an oil-mist bath. It is electrically driven by a 1½-hp motor which is air cooled and ordinarily supplied for operation on 115/230-volt, 50 or 60 cycle power. No water connections are required. The housing is finished in a neutral laboratory grey simulated-hammered finish and includes two wheels at the rear for ease of moving.

### Carboy Tilter

The General Scientific Equipment Company, 2700 Huntingdon St., Philadelphia 32, safety carboy tilter with pouring spout provides a safe, fast and convenient method of draining acids and other liquids from carboys. It fits carboys of any size. The cradle and supporting base are made of structural steel. All members are riveted or welded to insure a strong, durable unit.



The locking device permits the carboy to be positively held at any angle for pouring so that the whole operation can be done by one man.

The new safety air vent pouring spout insures an even flow of acid without spurts or splashes. This is made of acid resistant rubber and plastic tubing for long wear. Flow capacity is 5 gallons per minute. The long handle operates the tilter easily and permits the operator to remain at a safe distance from the acid.

The tilter can be safely left in a position just above the flow of the acid so that it is not necessary to return carboy each time all the way to a pouring position. This eliminates a lot of waste motion and saves time when a number of small containers are being filled in succession.

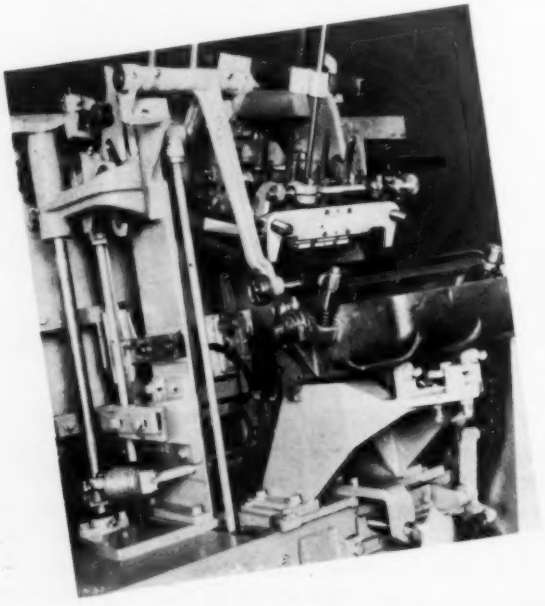
### Brooks Multi-Flow Rotameter

The Brooks Rotameter Company, Lansdale, Pa., offers a new Multi-Tube rotameter which can be built with two or more rotameter tubes in it for use on related flows.

The standard Brooks Full-View rotameter end fittings are fastened to a metal back plate with dowel pins and cap screws. The front of the unit is shielded with a plastic window, ¼" thick. Each tube with its fittings may be removed without disturbing any of the other parts. The advantages of this unit are: Compactness, Close correlation of related flows. Economy—it costs less than the same number of individual rotameters.

# *Announcing*

## The WORLD BEE-LINE Labeler's NEW VG (VACUUM GRIPFINGER) METHOD for *Controlled Registration* of LABELS



The new VG—Vacuum Gripfinger—method assures *controlled registration* of labels on containers, regardless of label size (even as small as a postage stamp) and regardless of adhesive adjustments or atmospheric variations. In sunken panels, on flat surfaces, body, neck or shoulder labels, medallions—any combination of labels, large or small, may be applied and precisely positioned simultaneously.

The new VG method provides a fine *even* application of adhesive over the *entire* label surface. There is no ungummed area, no possibility of marks or nicks on the sides of the labels whatever their shape. Clean, smooth, skin tight label application is a certainty.

Here is the *greatest* advance in quality labeling since the BEE-LINE sliding picker method was developed and patented.

Let us tell you how readily your Model 65 and Model 120 World BEE-LINE Labelers may be brought up-to-the-minute by the addition of the new Vacuum Gripfinger method.

"YOU GET THE BEST LABELERS IN THE WORLD"

**ECONOMIC MACHINERY COMPANY**

*Builders of World Automatic and Semi-Automatic Labelers for Every Purpose*

WORCESTER, MASSACHUSETTS

New York Philadelphia Pittsburgh Chicago San Francisco Los Angeles Denver Louisville Salt Lake City El Paso Seattle Portland Phoenix London Montreal Toronto Winnipeg Newfoundland Vancouver Mexico City Sydney, Australia Wellington, N.Z. San Juan, P.R. Ciudad Trujillo, D.R. Rosario, R.A.

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To you, this plant means complete freedom from unit-packaging detail — it means prompt, dependable, efficient handling — a package for your product which has the incomparable advantages of *Sanitape-Sealtite. It is the Contract Packaging Division of Ivers-Lee and its 100,000 square feet of light, air-conditioned space, complete with every modern labor-saving device are at your service right now. We assume full responsibility for your packaging problem. Write today for complete information.

**IVERS·LEE COMPANY, NEWARK, N. J.**

* Sanitape-Sealtite is a unique method for packaging pills, tablets, capsules, creams and powders, by which each unit or unit-dose is sealed in its own air-tight compartment—assuring complete protection and maintained efficacy. Packages, machines and methods fully covered by U. S. and Foreign Patents and Patents Pending.

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## *Compact, dependable* ALSOP FILTERS

**WHERE ALSOP FILTERS ARE AT WORK**

Chemicals, Liquid Soaps, Drugs, Cosmetic Preparations, Extracts, Perfumes, Oils, Fats, Alcohol, Water, etc.

**TO REMOVE ALL UNDESIRABLE IMPURITIES**

Alsop Filters are compact, portable, airtight and leakproof, operation is instant and uniform. Equally efficient on intermittent or continuous operation, for clarifying, final polishing or for removing turbid matter. Available in Stainless Steel, Monel, Nickel Plated Brass and Bronze, etc. Sizes from a few to thousands of gals. per hour. Write for complete details. Alsop Engineering Corporation, 406 Cass Street, Milldale, Conn.

**ALSOP ENGINEERING CORPORATION**

Filters, Filter Discs, Pumps, Tanks, Mixers, Agitators

## IT'S EASY WITH POTDEVIN LABELERS

You need never worry about package changes with Potdevins in your packaging department. Potdevins handle any size or shape of container, any style of label. Short runs at short notice—special packages for special occasions—experimental jobs, all go through as smoothly as your regular labeling operation.

And Potdevins are quick and clean. A beginner with a Potdevin applies 30% more labels than an experienced brush worker. She does a neater job because Potdevin's controlled glue film leaves no excess to soil package or label.

***Ask about our free trial offer. Use the coupon.***

We would like a ☐ 6 inch ☐ 8½ inch ☐ 12 inch ☐ 18 inch Potdevin label poster for ten days free trial in our plant.

NAME AND TITLE.....

COMPANY.....

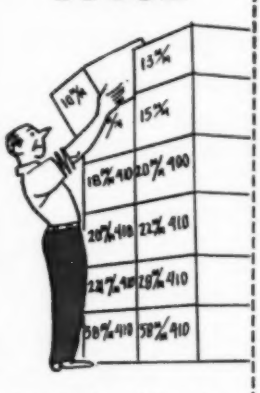
STREET.....

CITY.....ZONE.....STATE.....

**POTDEVIN**
**MACHINE CO.**
1257—38th Street—Brooklyn 18, New York

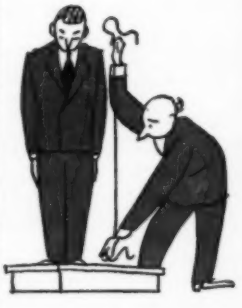
## MOLDED CLOSURES
### *by Terkelsen*

**STOCK**



**Stock sizes 10 m/m to 58 m/m in phenolics or striking urea colors**

**CUSTOM**



**We specialize in private mold designs**

***Terkelsen*** **MACHINE COMPANY**
324 A STREET, BOSTON 10, MASS.
Jesselson Sales Co., Inc.
347 Fifth Ave., New York 15
J. Rabinowitz & Sons, Inc.
2 Hanson Place, Brooklyn 17

## ERTEL CYLINDER TYPE
## *Positive Seal*
## DISK FILTER

1. FILTERING ELEMENTS are independently tightened to provide positive seal.

2. OUTER CYLINDER is closed by separate handwheel to prevent drippage or evaporation.

★ This multi-purpose filter will operate with a lesser number of sheets than its rated capacity if so desired. Unit is arranged to make reloading and cleaning as easy as possible. Rigidly constructed inlet and outlet rings insure a positive seal and thus eliminate the danger of bypassing unfiltered liquid. Fully illustrated in bulletin ECD-1 which gives complete specifications.

*USES: Drugs, Cosmetics, Lotions, Perfumes, Wines, Whiskies, Cordials, Rums, Cider, Extracts, Water, Syrups, Hospital Supplies, Plating Solutions such as copper, nickel, chrome, tin, Chemicals, Antiseptics, etc.*

**ERTEL ENGINEERING**
CORPORATION
KINGSTON NEW YORK
*New York City Sales:*
40 West 48th Street, N. Y. 19, N. Y.

ERTEL

ASBESTOS FILTER SHEETS • ASBESTOS SHEET FILTERS
CYLINDER TYPE DISC FILTERS • PYROGEN FILTERS
VACUUM BOTTLE FILLERS • PUMPS • MIXERS • CAPPERS

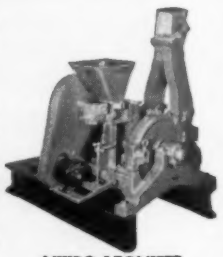
## *Check which of these will help you most*

- ☐ Higher Production
- ☐ Better Quality
- ☐ Lower Costs
- ☐ Dustless Operation

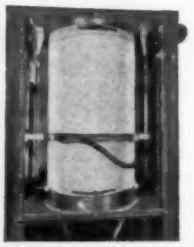
Manufacturers, both large and small, in your own field have achieved not merely one or two but all of these objectives through application of

### THE MIKRO PLAN FOR PROCESSING EFFICIENCY

The Mikro-Plan is not a theoretical treatise. It is a working system based on the data from 55,000 Laboratory tests made over the past 25 years . . . reinforced by performance records from installations of MIKRO-PULVERIZERS, MIKRO-ATOMIZERS and the new MIKRO-COLLECTORS.*



MIKRO-ATOMIZER
for ultra-fine grinds



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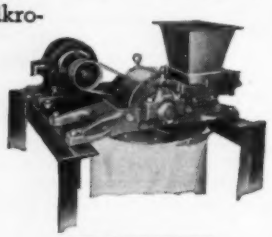
If you have a pulverizing or dust control problem let our engineers study it for you. They will tell you frankly whether or not our equipment, integrated in the Mikro-Plan is for you.

It will cost you nothing to investigate the merits of the Mikro-Plan. Just write today for your copy of our Confidential Test Grinding or Dust Collecting Data Sheets.



MIKRO-PULVERIZER
for granular or fine grinds

*Trade Mark
Patent Applied for
by
H. J. Hersey, Jr.
and
Pulverizing Machinery
Company

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# NEW!

*Semi-Automtaic*

## STRAIGHT-LINE VACUUM FILLER

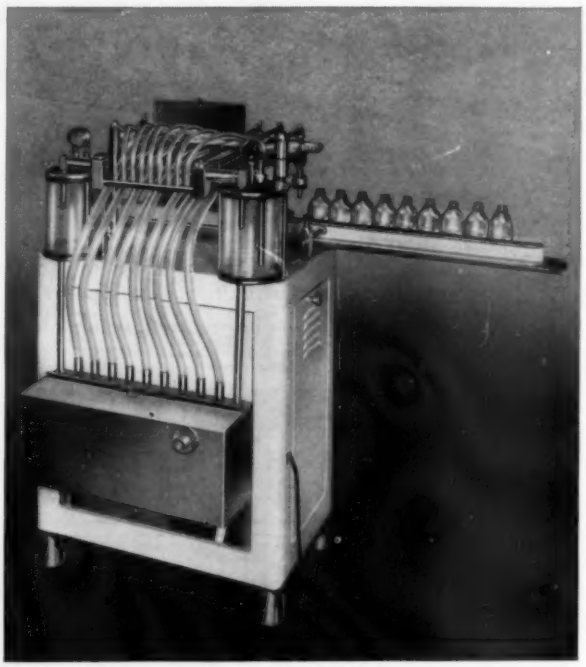


*Photo of Rear view of the New Model B-49 Straight-Line Vacuum Filler showing set-up utilizing nine tubes for handling six-ounce containers.*

### *Handles Any Size Container Up to Gallons*

REMARKABLE mechanical innovations introduce new automatic operation and controls for higher than ever standards of dependability. Handles any size container up to gallons by change-over from one size to another. The number of containers filled at a time and the rate of filling speed is governed by the size of the container.

EASY OPERATION—Illustration shows the feed bed loaded with nine containers while another nine containers are filling. When containers have filled, the operator trips a lever, automatically raising the filling head. With both hands free, he pushes all 18 containers on the feed bed to the right—the empty containers into filling position and the filled containers onto a chute or conveyor. The operator trips the lever back, lowering the filling head, and containers fill while the operator re-loads with empty containers and the cycle repeats. Approximately 4 to 6 cycles per minute is normal speed, resulting in a filling production of from 35 to 50 containers per minute.

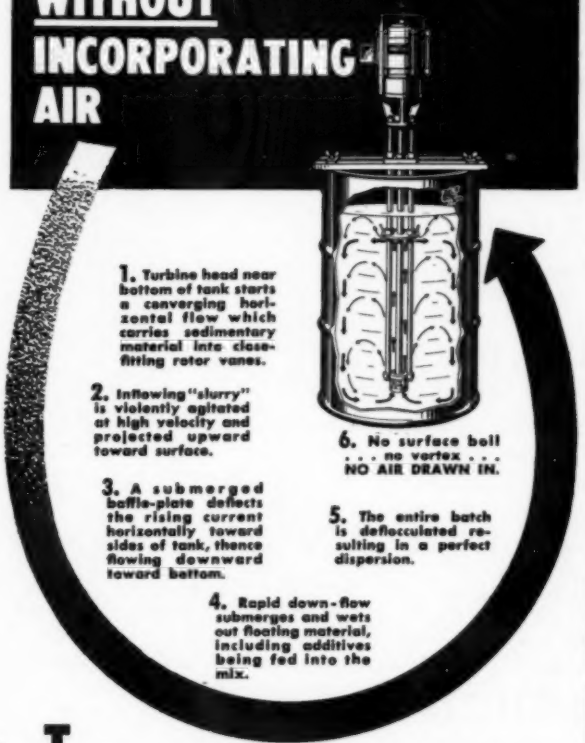
AUTOMATIC CONTROLS—The automatic overflow system consists of two cylinders with gravity return to an automatic supply control tank shown near the bottom of the machine. The overflow cylinders empty automatically and operate alternately with the raising and lowering of the filling head. Thus, vacuum is maintained on filling tubes at all times.

The product can flow to the polished sanitary supply tank by gravity and the control valve will admit flow as required by speed of filling. The tank is equipped with a drain valve for easy flushing and quick cleaning at the end of a production run. The new Model B-49 Straight-Line Vacuum Filler embodies the vacuum principle that has popularized U. S. Bottlers' Filling Machines the world over. Every construction detail is built of lastest approved materials and the operating mechanism is designed with a minimum of working parts for dependable, uninterrupted production. Filling stems are exactly the same as built into our fully automatic vacuum fillers. Operated by 1/2 h.p. 110-220 volt motor.

For further information, write us for the Model B-49 Bulletin.

**U. S. BOTTLERS' MACHINERY CO.**
**4013 N. Rockwell St. Chicago 18, Ill.**

# EPPENBACH HOMO-MIXER MAKES DISPERSIONS WITHOUT INCORPORATING AIR


1. Turbine head near bottom of tank starts a converging horizontal flow which carries sedimentary material into close-fitting rotor vanes.
2. Inflowing "slurry" is violently agitated at high velocity and projected upward toward surface.
3. A submerged baffle-plate deflects the rising current horizontally toward sides of tank, thence flowing downward toward bottom.
4. Rapid down-flow submerges and wets out floating material, including additives being fed into the mix.
5. The entire batch is deflocculated resulting in a perfect dispersion.
6. No surface boil . . . no vortex . . . NO AIR DRAWN IN.

The Eppenbach HOMO-MIXER is built on an entirely new principle. Whereas ordinary mixers create a vortex in the material that pulls in air, the HOMO-MIXER draws only from the bottom of the tank. Entrapped air tends to cause separation and splitting, and frequently oxidizes the product.

Furthermore, the HOMO-MIXER does not require a high head of liquid to give efficient mixing action. It is possible to process material in a tank at a depth just great enough to cover the mixing head. Fits tanks of all types and shapes . . . no clamps required . . . no special angle of installation.

Write for complete details of this mixer—"the only one of its kind." Ask for Catalog No. 402.

Eppenbach HOMO-MIXERS are available in a complete range of sizes for laboratories and production plants. Capacities range from 2 to 2,000 gallon batches from ¼ to 25 H. P.

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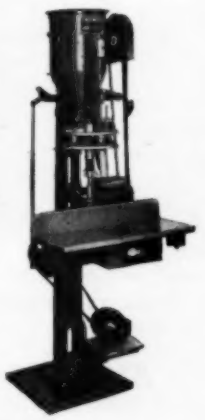
THERE IS more than one manufacturer having a tight squeeze. Perhaps he, like 3 out of 4, has overlooked the opportunity for modernizing an antiquated packaging department that is robbing him of profits. Triangle owners regularly report savings of 25% and more in packaging costs.

FOR EXAMPLE: The simple Triangle Model SPA Volumetric Filler illustrated is credited with $60 per month labor saving for a dessert manufacturer. Fast and accurate, this one-operator machine will accurately fill packages with semi-free and free flowing material at a rate up to 60 per minute. Filling and discharging is fully automatic. For high speed, fully automatic production it is available in multiple units with synchronized conveyors. This is one of many Triangle machines for weighing, filling or carton sealing of dry materials.



Write for literature and ASK ABOUT THE TRIANGLE PAY-AS-YOU-PACKAGE PLAN. For complete recommendations, send a sample filled package and state production requirements . . . we'll do the rest . . . no obligation.

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# Industry's Books

*Organic Syntheses, Vol. 28*, Edited by H. R. Snyder, 121 pp., John Wiley & Sons, New York, $2.50.

Organic Syntheses is an annual publication of satisfactory methods for the preparation of organic chemicals. Each set of directions has been tested by checking in a laboratory other than that of the contributor. Contents: 2-Acetothienone—2-Acetylfluorene—9-Acetylphenanthrene—2-Allylcyclohexanone—o-Aminobenzaldehyde—p-Aminophenyl Disufide—Benzoyl Disulfide — 9-Bromophenanthrene — 4-Bromo-o-xylene — 3-Carbethoxycoumarin—p-Chloroacetylacetanilide—m-Chlorophenylmethylcarbinol—m-Chlorostyrene—trans-1 2-Cyclohexanediol—4, 7-Dichloroquinoline—2, 5-Dihydroxyacetophenone—3, 4-Dimethylaniline—2, 4-Dimethylqunoline—1, 4-Dinitronaphthalene — Diphenylacetonitrile — Ethyl Azodicarboxylate—Ethyl Ethoxymethylenemalonate — Fluorenone-2-carboxylic Acid—Hexamethylene Chlorohydrin—Hydroquinone Diacetate—2-Hydroxycinchoninic Acid—dl-Isopropylideneglycerol—Methyl 4-Keto-7-methyloctanoate—4-Nitro-1-naphthylamine—p-Nitrophenyl Sulfide—Phenanthrene-9-aldehyde—1-Phenyl-3-amino-5-pyrazolone—a-Phenylthiourea, 2, 4, 7-Trinitrofluorenone—Vinyl Chloroacetate. Subject Index for Volumes 20-28 is included.

*Diseases of the Ear, Nose, and Throat*, by Douglas G. Carruthers, M.D., Ch.M. (Sydney), Honorary Ear, Nose, and Throat Surgeon, Sydney Hospital, Second Ed., 344 pp., Illus., Williams And Wilkins Co., Baltimore, $7.

The development and application of antibiotic chemotherapeutic agents, such as penicillin and the sulphonamides, has changed the outlook in many of the infective disorders of the ears, nose, and throat so that the mode of treatment and subsequent course have been considerably modified. The present-day methods of use of these substances have been described in each section, but care has been taken not to omit the earlier description of the course previously known to follow when these life-saving preparations were unknown. Wartime experience of tropical otitis externa having been extensive, and the subject of considerable research, the method of treatment of this condition has been described in new form. The discovery in Australia that rubella occurring in the pregnant mother is a cause of congenital deafness and mutism has enabled the author to describe the partial lifting of the veil of mystery previously obscuring these conditions. Now that it is almost the general custom for every practitioner to perform dissection of tonsils, this operation has been described in sufficient detail, and illustrated, so that the technique may be learned from this book. Since local anaesthesia has been found to be so suitable for tonsil operations, a full description of the method has been set out in this work.

*High-Polymer Physics, A Symposium*, Edited by Howard A. Robinson, Manager, Physical Research, Research Laboratories, Armstrong Cork Co., Published under the Auspices of the American Institute of Physics, by Remsen Press Div., Chemical Publishing Co., New York, 572 pp., $12.

Thirty-nine physicists and chemists contributed to this symposium on the relatively new subject of high-polymer physics. The results discussed come largely from industrial research laboratories rather than from college research groups. The physicist had to help the chemist and vice-versa to explain the phenomena encountered in high polymers. This volume is the product of their cooperation. Individual articles are devoted to the molecular structure, physical and physicochemical properties of natural and synthetic high polymers, e.g., glass, cork, rubber, textiles, certain plastics, synthetic resins and synthetic rubbers. The last part deals with scientific instruments used for making determinations and carrying out tests. Among the properties investigated are the mechanical, electrical, viscosity, dielectric, thermal, elastic, stress-strain, crystallization, tackiness, electrostatic, swelling, and thermodynamic characteristics of certain high polymers. There is an extensive bibliography at the end of each chapter.

*Textbook of Pharmacognosy*, by Heber W. Youngken, A. M., Phm.M., Ph.D., Sc.D., Professor of Pharmacognosy and Biology, Massachusetts College of Pharmacy, Sixth Ed., 1063 pp., 521 Illus., The Blakiston Co., Phila., $8.50.

This text is highly distinguished for its up to date inclusion and treatment of recent advances in its field. It includes material on characteristics, culture, harvesting, drying, storage of drug and aromatic plants and their products, on microanalytical methods, quantitative microscopical analysis, determination of vein islet numbers, palisade ratios, stomatol indexes, etc., information vitally important to growers of medicinal plants, control workers in crude drug and manufacturing pharmaceutical laboratories, etc. The taxonomic and morphologic systems of classification have been retained. Many new biological drugs and new illustrations have been added. Several new chapters have been added and numerous modifications of type style and arrangement greatly add to the usefulness of the book. Contents: Part I—Fundamental and Morphological Considerations of Drugs: Morphological Classification of Crude Drugs; Therapeutic Classes of Drugs. Part II—Taxonomic Consideration of Drugs: Drugs of Vegetable Origin; Drugs of Animal Origin; Antibiotics and Bacterial Biological Products; Microanalytical Methods.

*Condensed Review of Pharmacy*, by George W. Fiero, Phar. D., Ph. D., Technical Advisor to the President, Stanco, Inc., Sixth Ed., John Wiley & Sons, Inc., New York, 121 pp., $3.

The object of this publication is to furnish a complete condensed compendium of the drugs, chemicals and preparations of the United States Pharmacopoeia, Thirteenth Revision, and the National Formulary, Eighth Edition. In this Sixth Edition, the material has been entirely rewritten to conform with the English Titles used in the U. S. P. and N. F. The work is divided as follows: Part One—Practical Pharmacy. Part Two—Galenical Pharmacy. Part Three—Materia Medica. Part Four—Toxicology. Part Five—Elementary Chemistry.

# Patent Thoughts and Trends

By THOMAS CIFELLI, Jr., Patent Attorney

### Patented Shaving Preparations

The close relationship between depilatories and shaving preparations is of course very obvious. What could be more natural, therefore, than to follow up a patent review on depilatories (see March 1949 issue of this journal et seq.) with a similar one on shaving preparations.

This review on U. S. patents relating to shaving preparations is by no means an exhaustive one. There are doubtless many patents not listed herein which have a relation to shaving preparations. As anyone familiar with the U. S. Patent Office classification system is well—and sometimes distressingly—aware, it is virtually impossible to make a practical search which can with one hundred per cent certainty be said to be complete. For this reason, it is necessary to draw the line somewhere. This question was resolved by examining the general cosmetics sub-class (Class 167-Sub-class 85, Cosmetics and Toilet Preparations). All patents classified by the U. S. Patent Office in Class 167—Sub-class 85 that relate to shaving preparations were selected for consideration here.

The patents are divided into two groups. The first group comprises those patents which have expired. The second group covers the unexpired patents, that is, those which have not run their full course of seventeen years as monopolies.

Inasmuch as even the unexpired patents are citable by the Patent Office to negative a claim of patentability, they are pertinent and should be considered in order to determine whether a patent application should be filed. As regards the unexpired patents, they represent outstanding legal rights as measured by their claims, in addition to being prior art and hence citable against later patent applications. Consequently, as regards the group of unexpired patents a representative claim is included here.

### Expired U. S. Patents

#### U. S. 1,090,733, Issued March 17, 1914, for Shaving-Cream to Peter C. Magdlen

This is the old-timer as far as shaving cream patents go and deals with a shaving cream consisting of stearin, water, ammonia and liquid petrolatum in the proportions indicated.

| | |
|---|---|
| **Stearin** | **4 ounces** |
| **Water** | **23 ounces** |
| **Ammonia** | **1 ounce** |
| **Liquid Petrolatum** | **4 ounces** |

#### U. S. 1,091,052, Issued March 24, 1914 for Process of Producing Shaving-Cream Assigned to William G. Brokaw

This patent appears to be the first one specifically dealing with brushless shaving creams. The patent gives a specific method of making a shaving cream, the method consisting of melting one and one-quarter pounds of stearin in a suitable receptacle, adding eight ounces of lanolin to one gallon of heated water of a temperature to melt the lanolin, dissolving one ounce of a 25% solution of spirits of ammonia in five ounces of boiling water, adding the lanolin and ammonia solutions gradually to the stearin while the mass is being stirred, and so timing these additions that the last ounce of each is added to the stearin at substantially the same time, and finally stirring the mixture until a cream of the proper consistency is produced.

#### U. S. 1,709,460 Issued April 16, 1929 for Shaving Cream and Process of Making Same to Charles H. Caseau

This patent also deals with brushless shaving creams and discloses as the principal ingredients in such creams the use of swollen starch and a mixture comprising a plurality of hydrocarbons having a viscosity about like cold cream (petrolatum). The patent gives directions for the preparation of the swollen starch.

The following is an example taken from the patent of a formula which is said to produce advantageous results under cold climatic conditions such as exist in New York City and vicinity in the winter:

| | |
|---|---|
| Starch | 2-4 oz. in 20 oz. water |
| Borax | Under 1 gr. to 2 gr. per oz. water |
| Soap | ½ oz. to 1½ oz. |
| Paraffine | 1-3 oz. |
| Vaseline or Mineral Oil | Sufficient to allow the whole mixture to emulsify without being too greasy or too alkaline. |

#### U. S. 1,744,061 Issued January 21, 1930 for Shaving Preparation to Nathan Sulzberger

This patent is of interest as it appears to be the first one of those examined which discloses a shaving preparation containing a styptic. Adrenalin appears to be the preferred styptic, the patent asserting that it may be used in various forms.

### Recent Patents

*U. S. 2,456,645*—**Gaylord Products—Hair Curler.**

*U. S. 2,456,686*—**St. Louis University—Vitamin K Process.**

*U. S. 2,456,909*—**Electronized Chemicals Corp.—Foodstuffs or drugs are sterilized by bombarding them with high speed electrons for a very short time.**

*U. S. 2,456,991*—**Boyce Thompson—3, 4-Methylenedioxyphenyl-Propylene.**

*U. S. 2,457,141*—**Pharmaceutical Organics, Inc.—Preparation of Double Salts of Ascorbo-Salicylate.**

*U. S. 2,457,188*—**Americaine, Inc.—Benzococaine Solution.**

*U. S. 2,457,203*—**Electronized Chemicals Corp.—High speed electrons are used to increase the amount of scenting essential oils formed by cut plants and to prevent wilting of flowers for considerable time.**

*U. S. 2,457,585*—**E. R. Squibb—Producing Penicillins.**

*U. S. 2,457,656*—**E. Bilhuber, Inc.—Aliphatic Amino Alcohols.**

*U. S. 2,457,741*—**Cudahy Packing—Stabilizing Fatty Material.**

*U. S. 2,457,804*—**J. O. Bower—Synthetic Blood Suture.**

*U. S. 2,457,805*—**Burton T. Bush**

Inc.—Aliphatic Esters of 2, 4, 5-trichlorophenol.

*U. S. 2,457,820*—Merck—Amino Acids Solution.

*U. S. 2,457,932*—Hoffmann-La Roche—Salts of Tocopheryl Phosphoric Acid Esters.

*U. S. 2,457,933*—Hoffmann-La Roche—Electrolytic Reduction of Pentonic Acid Lactones.

*U. S. 2,458,020*—D. E. Olsen—Cosmetic Holder and Mirror.

*U. S. 2,458,063*—M. Dulberg—Cosmetic Receptacle.

*U. S. 2,458,430*—Hoffmann-La Roche—Medicinal Solutions.

*U. S. 2,458,453*—Hoffmann-La Roche—Process for Making Thiamin Derivatives.

*U. S. 2,458,584, 2,458,585*—Pyridium Corp.—Aminopyridino Compounds.

*U. S. 2,458,656*—Boyce Thompson—Esters of Piperonyl Chrysanthemum Carboxylic Acid. Insecticides.

*U. S. 2,458,679*—Nopco Chemical Co.—Vitamin-fortified Meals.

*U. S. 2,458,823*—National Drug Co.—Abeta-(beta-dialkylamino-ethyl-mercapto)-ethyl alkoxyl-benzoate.

*U. S. 2,459,062, 2,459,088*—American Cyanamid Co.—Quaternary Ammonium Compounds. Germicides.

*U. S. 2,459,217*—Sharp & Dohme—Alkamine esters of Para Amino Benzoic Acid.

*U. S. 2,459,304*—F. Blank—Medical Vial Stopper for Insuring Sterile Needle Punctures.

*U. S. 2,459,315*—Hoffmann-La Roche—Preparation of Metal Salts of Penicillin.

*U. S. 2,459,338*—Parke, Davis—Amino Methyl Phenols.

*U. S. 2,459,360*—Wyeth—Lactone Derivatives of 2-Pyridone Compounds.

*U. S. 2,459,518*—E. R. Squibb—Parenteral Solutions of Riboflavin and the Like. Contains pharmacodynamically-unobjectionable indole.

*U. S. 2,459,566*—Wallace Labs.—Penetrating Aqueous Sulfur Composition for Acne, etc.

*U. S. 2,459,777*—Eli Lilly—Quinacrine Process.

*U. S. 2,461,781*—A. Sorrell—Manicurist Buffer.

*U. S. 2,461,837*—Baxter Labs.—Handling of Sterile Liquids.

*U. S. 2,461,847*—Merck & Co.—Preparation of dl-Threonine.

*U. S. 2,461,883*—O. Elsasser et al—Apparatus for the Permanent Waving of Hair. Comprises a perforated tubular curler closed at one end, a source of compressed gas, an ozone generator, a container for a fixing solution and a spraying device.

*U. S. 2,461,921*—H. M. Rabinowitz—Antispasmodic Composition.

*U. S. 2,461,922*—E. R. Squibb—Antibiotic Extraction from Solids of Actinomyces Griseus Culture.

*U. S. 2,461,949*—E. R. Squibb—Crystalline Sodium Penicillin.

*U. S. 2,462,251*—Merck & Co.—Preparation of Ascorbic Acids.

*U. S. 2,462,449*—Research Corporation—Pantothenic Acid.

*U. S. 2,462,606*—Coty—Device for determining combined effect of two superimposed layers of cosmetics.

*U. S. 2,462,712*—Purdue Research Foundation—Preparation of dl-Methone.

*U. S. 2,462,782*—American Home Products Corp.—Production of Totaquine.

*U. S. 2,462,963*—Ciba—P-aminobenzenesulfonamides.

*U. S. 2,463,002*—M. H. Smith—Nose and Throat Atomizer.

*U. S. 2,463,461*—Hoffmann-La Roche—Aqueous Solution of Riboflavin. Contains lower alkylolamide of gentisic acid as solubilizer.

*U. S. 2,463,462*—Hoffmann-La Roche—Lower Alkylolamide of gentisic acid.

*U. S. 2,463,606*—F. L. Fain—Hair Curler.

*U. S. 2,463,821*—L. Stallins—Hair Curler.

*U. S. 2,463,831*—Smith, Kline & French Labs.—Amino Alkyl Benzoates.

*U. S. 2,463,939, 2,463,941, 2,463,942*—Eli Lilly—Phenylacetyl Amino Acid Esters, Acids, Alcohols and Ethers.

*U. S. 2,463,940*—Eli Lilly—N-(2-phenylacetoxy-ethyl)-Phenyl Acetamide.

*U. S. 2,464,053*—McKesson & Robbins—Penicillin Salt stabilized with Zinc-, Aluminum-, and Alkaline Earth Metal Salts of Higher Fatty Acids.

*U. S. 2,464,137*—W. R. Warner & Co.—Esters of 2, 3-Epoxypro-pylmalonic Acid.

*U. S. 2,464,158*—W. R. Warner & Co.—Esters of 1-methyl-3-Acyloxy-propyl alpha-Halomalonic Acids.

*U. S. 2,464,203*—Boots Pure Drug Company Limited—Dienoestrol Manufacture.

*U. S. 2,464,240*—E. T. Krebs et al—Therapeutic containing extract of seeds of the Prunus family.

*U. S. 2,464,260*—Parke, Davis—Quaternary Ammonium Halides of Benzhydryl Ether Derivatives.

*U. S. 2,464,284*—Smith, Kline & French Labs.—Vasoconstrictor Composition.

*U. S. 2,464,374*—B. Chiego—Manicure Implement.

*U. S. 2,465,303*—Research Corp.—Laevo-alpha-Hydroxy-Beta, Beta-dimethyl-Gamma-Butyro Lactone. Intermediate for substances having the physiological activity of pantothenic acid.

*U. S. 2,465,307, 2,465,308*—Hoffmann La Roche—Arsono and Arsenoso Compounds.

*U. S. 2,465,320*—Hoffmann La Roche—Chalcones.

*U. S. 2,465,357*—Upjohn—Therapeutic Sponge.

*U. S. 2,465,461*—The Lankenau Hospital—Saturated Cyclic-2, 1-Azathionium Compounds.

*U. S. 2,465,505*—Hoffmann La Roche—Manufacture of 3, 4-di-(p-Hydroxy-Phenyl)-Hexadiene-2, 4.

*U. S. 2,465,737*—National Drug—Gamma-Hydroxy-N-Butyryl Taurine and Salts. Analgesics. Effective against staphylococcus, etc.

*U. S. 2,465,765*—National Drug—Pantoyl—Sulfanilamide Derivatives.

*U. S. 2,465,865*—Pyridium Corp.—2-(p-Methoxybenzyl, Dimethylamino-ethyl) Aminopyrimidine.

*U. S. 2,465,868*—Ward et al—Acridine Derivatives.

*U. S. 2,466,004*—Parke, Davis—2'-Keto-3, 4-Imidazolido-2-Thiophene-Valeric Acid.

*U. S. 2,466,019*—E.A.H. Friedheim—Compositions of Reduced Toxicity, containing Antimony and 1, 2-Dihydroxybenzene Disulfonic Acid.

*U. S. 2,466,177*—Parke, Davis—Hydantoins.

*U. S. 2,466,200*—M. B. Biro—Ampoule Opener.

*U. S. 2,466,232*—Merck—Biotin Intermediates.

*U. S. 2,466,535*—F. O. Conill—Device for Rapidly Drying Hair.

*U. S.* 2,466,670—American Cyanamid—Amides of N-(2, 3-Dihydroxy-2-Propenylidene)-Aminobenzoic Acid.

*U. S.* 2,466,710—Armour & Co.—Blood Product Containing Oxidized Heme.

*U. S.* 2,466,764—E. A. H. Freidheim—Organometallic Compounds Containing 1, 3, 5-Triazine Rings.

*(To be continued)*

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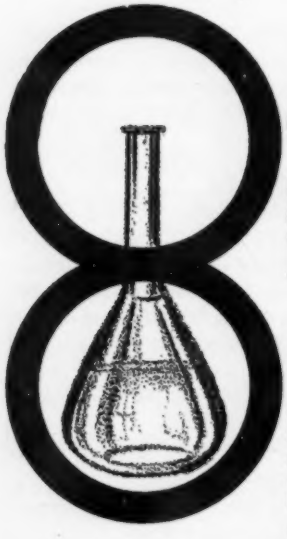

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# YOUR TRADE-MARK RECORD

By JOHN H. GRAHAM
International Patent and Trade-Mark Consultant

### Trade-Mark in French Held Descriptive Although 45 Years Old

We are back on that old question of the use of French words as trade-marks in this Country and the possibility of the English counterpart being descriptive.

In the case of Stauffer Chemical Company, Assistant Commissioner Daniels, affirmed the action of the Examiner in refusing the mark "Fleur de Soufre," the goods being flowers of sulphur.

This case was tried under the 1946 (Lanham) act, where greater chance is given for registration of marks which have been used for many years and thus are considered distinctive, even though there may be a descriptive flavor about them. The trade-mark under question has been in use by the owners for forty five years. It was held that a mark not otherwise registrable could not be made so by merely using a foreign language equivalent, and a generic name of the product itself could never become an effective trade-mark and be appropriated by one party. Marks which are geographical or personal names have in several cases been permitted to be registered and the 1946 Act was in part written to take care of cases where a mark had been used so long that it was capable of distinguishing the goods.

In no case however was the mark the actual name of the goods and the mere use of a common foreign language translation can confer no significance.

This decision may clear up the situation for many people who are wondering whether they can now register their marks, which are considered descriptive, but have been used for years. The Act of 1946 has a section which says in part: "nothing herein shall prevent registration of a mark which has become distinctive of applicants, goods in commerce—the commissioner may accept as evidence—proof of substantially exclusive and continuous use—for five years."

This is very broad and under it, many attempts are being made to register marks which before were completely prohibited. Thus, the above case helps us in showing that the Commissioner will not blindly let all such cases go to registration, but that other things must be considered in deciding registrability.

### Concurrent Use Section of 1946 Act Considered.

Another question argued pro and con with respect to the new Act now in force, is the "concurrent use" clause. Before the 1946 Act it was impossible for two parties to both register the same mark for the same goods, even if it was proven that the sales territories of the two were completely segregated.

Again we are indebted to Stauffer Chemical Co., for some help in interpreting his new provision.

A. C. Daniels affirmed the Examiners decision to refuse to register Stauffer's trade-mark "D-Toxul" for insecticide in view of a registration for the same goods of "Toxol," the date of registration being 1922 (renewed) and owned by The Glidden Co., of Cleveland, Ohio. He also refused to institute "concurrent use" proceedings.

Among other points it was brought out that the "concurrent use" section applied not only to applications for trade-mark registrations, but also to registrations, and these in some cases could be under any prior trade-mark Act, right back to 1881.

Stauffers argument was that the registered mark "Toxol" was only used in the State of Ohio and they were entitled to use in the rest of the U. S. A. Unfortunately, the date of first use claimed by Stauffer, while old, was subsequent to the filing date of the registration and this was held as an automatic bar to Stauffer's "concurrent use" request. The portion of the Act permitting such use by more than one party clearly states that any prior use relied upon shall be before any of the filing dates of applications involved.

### "Therapules" Confusingly Similar to "Theravita"

On the normal front of decisions involving confusingly similar pronunciation and appearance, we have a decision, affirmed by A. C. Daniels, in which "Therapules" for medicinal preparations was refused registration to Novocol Chemical Co., on the basis of opposition by William R. Warner & Co. Warner relied on their registration of "Theravita" for vitamin compositions.

It was accepted that the products in each case were conflicting even though Novocol claimed their product "Therapules" were sold to Doctors and Dentists exlcusively, and are only for hypodermic use. Novocol also strongly argued that "There" was a contraction of "Therapeutic" and thus was descriptive of the goods. It was held that there was not any descriptive significance to this prefix ("Thera") which would be obvious to a purchaser of the goods. Novocol brought in considerable evidence of the use of "Thera" in publications as a prefix, but these failed to show the term as

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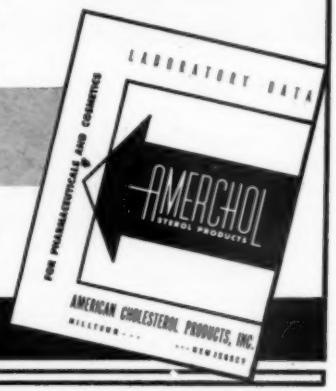


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recognized or obvious as meaning "Therapeutic" nor had it been established as a common word of speech. Considered as a whole therefor, the marks were held confusingly similar.

### "Nutrix" Confusingly Similar to "Nutrine"

In this case between Middlebrooke Lancaster Inc. and Lancome S. A. it was held that perfumes and rouges have the same descriptive properties as scalp and hair ointment, permanent wave preparations and other hair goods. Lancome were refused registration of "Nutrix" for perfumes and rouges on Middlebrooke's registered mark "Nutrine" for hair and scalp goods.

Lancome tried to show the prefix "Nutri" as descriptive in the case of "Nutrine," namely, as suggesting "Nutrition" or "Nutritive" whereas their own mark was suggested as a contracted distortion of "New" and "tricks," but the Examiner refused all such definitions as without apparent basis and held that the two marks conflicted.

### Cold Home Wave Kits Confusingly Similar Goods to Hair Curlers and Snaps

In Plate versus Lenason Co., cold permanent wave kits were considered as goods of the same descriptive properties as non-electric hair curlers and hair snaps.

The mere fact that the goods are sold through entirely different channels, Lenason's cold wave kits in drug and similar stores and Plate's curlers and snaps in Notion and Variety stores, was held to have no bearing on the matter.

---

*The following Trade-Marks were recently published in the Official Gazette of the United States Patent Office and are complete to the end of March.*

**Savol**—IV—A—563,428
S. A. Onorato, dba Valtex Products Co., Rochester, N. Y.
Ser. Aug. 14, 1948 D. U. April 1933

**Silva-Spar**—VI—A—560,283
G. M. Olds, dba Gordon Olds Products Co., Mystic, Conn.
Ser. June 26, 1948 D. U. Mar. 24, 1948

**The Awaited Hour**—VI—B—562,709
Jean Patou Inc., New York, N. Y.
Ser. Aug. 3, 1948 D. U. June 8, 1945

**Tianne**—VI—B—560,223
Nettie Rosenstein Inc., N. Y., N. Y.
Ser. June 25, 1948 D. U. June 17, 1948

**Tintz**—VI—H—541,052
Tintz Co., Chicago, Ill.
Ser. Nov. 13, 1947 D. U. Sept. 5, 1933

**Westenic**—VI—T—556,858
Westerfield Pharm. Co., Inc., Dayton, O.
Ser. May 11, 1948 D. U. July 1, 1947

**Zaar**—VI—G—486,873
Raymond Labs., Inc., St. Paul, Minn.
Ser. Aug. 2, 1947 D. U. June 5, 1942

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*The following trade-marks were recently published in the Official Gazette of the U. S. Patent Office and are the complete listings through the end of April.*

**Ablutions**—VI—C—522,145
Lancome, S. A. Paris, France
Ser. May 9, 1947 D. U. Oct. 10, 1946

**Anncar**—VI—C—557,110
J. J. Carbone dba Joncar Co., N. Y., N. Y.
Ser. May 15, 1948 D. U. Apr. 5, 1948

**BAO**—VI—B—545,815
Callot Soeurs of Paris, Inc., N. Y.
Ser. Dec. 31, 1947 D. U. Oct. 1947

**Bismoline**—VI—C—543,417
Bismoline Mfg. Co., Lancaster, Pa.
Ser. Dec. 5, 1947 D. U. Since 1900

**Botticelli**—VI—C—547,899
J. Del Russo, Inc., N. Y., N. Y.
Ser. Jan. 29, 1948 D. U. Nov. 1945

**Boy-Kin**—VI—H—499,897
B. Hawkins dba Boy-Kin Products, Pittsburgh, Pa.
Ser. Apr. 9, 1946 D. U. Oct. 1945

**Chanel**—IV—A—550,582
Chanel, Inc., N. Y., N. Y.
Ser. Feb. 26, 1948 D. U. Jan. 1, 1921

**Chasuble**—VI—BH—507,120
Societe Jacques F. Fath, Paris, France
Ser. Aug. 9, 1946 D. U. July 27, 1945

**Cinq A Sept**—VI—B—552,144
Maria Hornes, Inc., N. Y., N. Y.
Ser. Mar. 17, 1948 D. U. Dec. 22, 1947

**Cle-Nail**—VI—E—508,662
M. E. Wiggins dba The Lifola Co., Tulsa, Okla.
Ser. Nov. 1, 1948 D. U. Sept. 1, 1946

**Coy de Paris**—VI—BC—500,774 (And Des.)
M. Roussel dba Parfumerie Silka, Paris, France
Ser. Apr. 23, 1946 D. U. Jan. 1946

**Dan-Kur**—VI—H—537,659
Dan-Kur Co., Dunn, N. C.
Ser. Oct. 13, 1947 D. U. Sept. 1, 1946

**Dent's**—VI—K—515,709
Grandpa Brands Co., Cinn., Ohio
Ser. Jan. 14, 1947 D. U. Oct. 1890

**Dorothy Gray**—IV—A—558,144
Lehn & Fink Products Corp., Bloomfield, N. J.
Ser. May 29, 1948 D. U. Since 1916

**D'Orsay Eau de Cologne du Chevalier**—VI—BC—548,346
D'Orsay Perfumeries Corp., N. Y., N. Y.
Ser. Jan. 30, 1948 D. U. Since 1922

**Elasti-Set**—VI—H—501,236
Helene Curtis Industries, Inc., Chicago, Ill.
Ser. May 1, 1946 D. U. Apr. 16, 1946

**Emil**—VI—BCD—561,189
Emil, Inc., Easton, Pa.
Ser. July 12, 1948 D. U. Feb. 10, 1948

**E'te' Fleuri**—VI—BC—534,913
Mury-Exportation, Paris, France
Ser. Sept. 18, 1947 D. U. Sept. 22, 1947

**4-0**—VI—CH—529,496
Ann Shaffer dba Shaffer Co., W. Los Angeles, Cal.
Ser. July 25, 1947 D. U. Feb. 8, 1943

**Gau-Bro**—VI—H—557,257 (And Des.)
Cavalier Bros., Edgewater, N. J.
Ser. May 18, 1948 D. U. Apr. 28, 1948

**Gill's**—IV—A—557,747
Thomas Gill Soap Co., Inc., Brooklyn, N. Y.
Ser. May 25, 1948 D. U. Sept 15, 1915

**Golden Corsage**—VI—C—518,838
The Lander Co., Inc., N. Y., N. Y.
Ser. Mar. 11, 1947 D. U. Mar. 1, 1947

**Grenald's Shuttle Lotion**—VI—CS—567,615
Pepper-Grenald Labs., Miami Beach, Fla.
Ser. Oct. 29, 1948 D. U. August 1939

**"Hair-Success"**—VI—H—560,601
E. T. Browne Drug Co., Inc., N. Y., N. Y.
Ser. July 2, 1948 D. U. June 15, 1911

**Helen Neusfaefer**—VI—C—510,360
A. Sartorius & Co., Inc., N. Y., N. Y.
Ser. Oct. 5, 1946 D. U. June 12, 1946

**Iodex**—IV—A—561,250
Menely & James, Ltd., N. Y., N. Y.
Ser. July 13, 1948 D. U. May 19, 1922

**Kreml Kreme**—VI—H—543,535
R. B. Semler, Inc., New Canaan, Conn.
Ser. Dec. 5, 1947 D. U. Aug. 20, 1947

**Lip-Fashion**—VI—C—509,189
Revlon Products Corp., N. Y., N. Y.
Ser. Feb. 10, 1949 D. U. Nov. 7, 1947

**Loc-Lure**—VI—H—537,884
Facial Products Inc., Chicago, Ill.
Ser. Oct. 15, 1947 D. U. May 1945

**Lovli-Do**—VI—H—559,718
Loveliness Beauty Aids, Inc., N. Y., N. Y.
Ser. June 19, 1948 D. U. June 18, 1947

**Mariage D'Amour**—VI—B—545,816
Callot Soeurs Of Paris, Inc., N. Y., N. Y.
Ser. Dec. 31, 1947 D. U. Oct. 1947

**Merrit**—IV—AM—562,390
Merrit Products Co., Paris, Tenn.
Ser. July 28, 1948 D. U. Jan. 30, 1942

**Moulin Rouge**—VI—BCH—525,742
S. E. R. R. E. Paris, France
Ser. Oct. 17, 1946 D. U. March 1910

**Mylove**—VI—B—561,606
Elizabeth Arden Sales Corp., N. Y., N. Y.
Ser. July 17, 1948 D. U. June 28, 1948

**Nailnude**—VI—C—515,730
David L. Truman, Hollywood, Cal.
Jan. 14, 1947 D. U. June 15, 1946

**Natoma's Lengthen Aid** — VI—H—549,236
Esther Natoma Crane, Chicago, Ill.
Ser. Feb. 10, 1948 D. U. May 6, 1947

**"Nine-Oh"**—VI—K—550,684
Endo Products Inc., Richmond Hill, N. Y.
Ser. Feb. 27, 1948 D. U. August 1940

**Nuance**—IV—A—555,237
Antoine de Paris, Inc., N. Y., N. Y.
Ser. Apr. 22, 1948 D. U. Nov. 17, 1943

**Oldparis**—VI—ABC—476,508
Moses L. Heim, Brooklyn, N. Y.
Ser. Nov. 16, 1944 D. U. Nov. 8, 1944

**Palm Co. Oil**—IV—A—515,964
Soap Craft Inc., Chicago, Ill.
Ser. Jan. 18, 1947 D. U. March 1922

**Paris Idol Hair Scapp**—VI—H—519,617 (And Des.)
Bauer & Hunt Inc., N. Y., N. Y.
Ser. Mar. 27, 1947 D. U. Mar. 15, 1947

**Paul Jones**—VI—B—517,249
Paul Jones, Piedmont, Cal.
Ser. Feb. 10, 1947 D. U. June 15, 1935

**Peggy Walker**—VI—C—494,946
United Cigar-Whelan Stores Corp., N. Y., N. Y.
Ser. Jan. 17, 1946 D. U. Feb. 1, 1945

**Produits de Beaute' et Parfums Jeanne Piaubert**—VI—C—515,782
Jeanne Piaubert, Paris, France
Ser. Jan. 15, 1947 D. U. July 2, 1946

**Restoration**—VI—BC—557,099
Anatox Mineral Prod. Corp., Franklin, Mich.
Ser. May 15, 1948 D. U. Dec. 1, 1946

**Sadell**—VI—H—555,266
Sadie B. Hall, Chicago, Ill.
Ser. Apr. 22, 1948 D. U. Nov. 25, 1946

**Secret d'Amour**—VI—BC—561,109
E. R. Frank dba Auziere & Co., Nashville, Tenn.
Ser. July 10, 1948 D. U. August 1947

*(To be continued)*

## Antacids

(*Continued from page 683*)

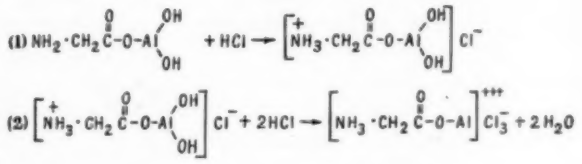
**TABLE III**

**Neutralization Values and Rates of Antacid Materials**

| *Antacid* | *Neutralization Value** | *Amount of acid neutralized in minute†* | | | |
|---|---|---|---|---|---|
| | | *5* | *30* | *60* | *120* |
| Sodium bicarbonate | 120 | 120 | 120 | 120 | 120 |
| Magnesium carbonate | 220 | 220 | 220 | 220 | 220 |
| Calcium carbonate | 210 | 210 | 210 | 210 | 210 |
| Magnesium trisilicate | 113 | 92 | 106 | 110 | 113 |
| Aluminum hydroxide | 267 | 70 | 213 | 250 | 267 |
| Aluminum dihydroxy-aminoacetate | 175 | 125 | — | 175 | — |

*Neutralization values represent the amount of tenth normal hydrochloric acid neutralized to pH 3.5 by 1 gram of the antacid material at 37.5°C. over a period of two hours.
†These values represent the amount of tenth normal hydrochloric acid neutralized in the time shown to pH 3.5 by 1 gram of the antacid material at 37.5°C.

From Table III it can be seen that sodium bicarbonate, magnesium carbonate, calcium carbonate and magnesium oxide react immediately with hydrochloric acid and as such would cause an immediate reduction of gastric hyperacidity, and of these materials magnesium oxide has the highest neutralization value and therefore could be used in the smallest dosage to produce equivalent results. Aluminum dihydroxy aminoacetate[32] is an interesting material and may be considered as being formed by the interaction of aluminum hydroxide and glycine (actually the method of formation is more roundabout). This molecule contains an amino group and two hydroxy groups which are capable of reacting with hydrochloric acid. The amino group reacts fairly rapidly with hydrochloric acid to form a neutral salt but the hydroxy groups react more slowly. Since one molecule of aluminum dihydroxy amino acetate can theoretically react with three molecules of hydrochloric acid, it can be seen that one-third of the gastric acidity can be neutralized immediately and the remainder will be neutralized more slowly according to the equations shown below:



Magnesium trislicate, aluminum hydroxide and aluminum dihydroxy amino acetate are slower acting antacids with aluminum hydroxide having the largest neutralization value of this group. Of course magnesium oxide alone will have a laxative effect on the bowels whereas aluminum hydroxide alone will have a constipating effect, but using the proper portions of each might yield a very effective product.

### d. Prolonged Action

The antacid preparation must not only have a high neutralization value and be capable of reducing the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acidity rapidly but must be capable of prolonged action. It has been shown that the stomach is continually secreting hydrochloric acid, especially after meals and in persons suffering from hyperacidity this secretion may be equivalent to as much as 120 cc. of tenth normal hydrochloric acid per hour.[6,14,42] It can be seen then that the antacid must be given in a dose large enough to remove the free hydrochloric acid present at the time of taking the dose and any hydrochloric acid which may be secreted after the antacid is taken. Of course this means that the antacid must remain active for as long a period of time as it remains in the stomach. Since the normal emptying time of the stomach is about two hours,[48] the antacid should remain active over this period of time.

This prerequisite of an ideal antacid would rule out any materials which are soluble in the body fluids such as sodium bicarbonate, since these soluble antacids are removed quickly from the stomach. All the remaining antacids shown in Table III are insoluble and would give prolonged results, if used in correct dosage.

### e. No Acid Rebound

The antacid administered must reduce the gastric acidity to a certain level and should maintain this level for a prolonged period of time but the preparation should never overneutralize the gastric contents. If the gastric contents become even slightly alakaline, the parietal cells which line the stomach wall will start secreting fresh acid to compensate for this alkaline condition; and this fresh acid secreted may be produced in quantities which far exceed the original hyperacidity present[36,37] causing what is known as "acid rebound" or secondary acid rise. The amount of acidity or alkalinity is conveniently measured by a unit called "pH." A pH value of 7 is considered neutral, being neither acidic nor alkaline. A pH value below 7 represents acidic conditions, the lower the value of the pH the greater the acidity; similarly a pH value above 7 represents an alkaline condition and the higher the value of the pH the greater the alkalinity. Thus in formulating an ideal antacid, care must be exercised to use materials which even if taken in overdoses would never cause the stomach contents to become alkaline or rise about pH 7. In recent years gastroenterologists have come to the conclusion that it is unnecessary and perhaps even unwise to completely neutralize the total gastric acidity. Aside from the fact that overneutralizing the stomach contents may cause acid rebound there are other dangers which may result. Raising the pH above 7 removes the acid medium which may be necessary to protect the lining of the stomach from the strong digestive action of the enzymes trypsin and eripsin which may be regurgitated from the intestines and which are very active in alkaline media.[42] And furthermore at a pH of 7 the stomach is neutral and presents a good medium for bacterial decomposition to set in.

The hydrochloric acid in the stomach exists both in

(*Continued on page 767*)

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**#67 SEMI-REFINED**

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# Compounder's Corner

## Barium Sulphate Cream for X-Ray Diagnosis

For many years there has been a need for a standard formula for a stable and elegant preparation of barium sulphate for use in the X-ray examination of the alimentary tract. To meet this need, G. H. Sheard (*Pharm. J.* 16,1: 420, 1949) has developed two formulas which yield satisfactory creams containing 50 per cent of barium sulphate. The first, employing the best commercial grade of tragacanth, is as follows:

| | |
|---|---|
| **Barium sulphate** | **20 lb.** |
| **Sodium benzoate** | **120 grains** |
| **Saccharin sodium** | **40 grains** |
| **Vanillin** | **40 grains** |
| **Oil of anise** | **40 minims** |
| **Tragacanth powder No. 1 elect** | **5 oz.** |
| **Alcohol, 90 per cent** | **10 fl. oz.** |
| **Water, to make** | **4 gallons** |

Dissolve the sodium benzoate and saccharin sodium in 2 gallons of water. Dissolve the vanillin and oil of anise in the 90 per cent. alcohol and stir in the powdered tragacanth. Pour this suspension into the aqueous solution with constant stirring. Set aside, and stir occasionally until the gum is uniformly dispersed. Triturate the barium sulphate with sufficient water to produce nearly two gallons. Add the gum solution, stir well, and adjust with water to four gallons. Pass the product through a suitable sieve. Stir well, and transfer immediately to the final containers.

Sodium alginate powder has been found to be an excellent substitute for tragacanth powder as a suspending agent for barium sulphate. It yields a satisfactory mucilage of constant consistency which is made by an easy process without the use of alcohol:

| | |
|---|---|
| **Barium sulphate** | **20 lb.** |
| **Sodium benzoate** | **120 grains** |
| **Saccharin sodium** | **40 grains** |
| **Sodium alginate** | **14 oz.** |
| **Vanillin** | **40 grains** |
| **Oil of anise** | **40 minims** |
| **Alcohol, 90 per cent** | **½ fl oz.** |
| **Water, to make** | **4 gallons** |

Dissolve the sodium benzoate and saccharin sodium in two gallons of water. Add the sodium alginate powder very slowly in a thin stream with continual stirring of the solution to avoid formation of lumps. During this process the liquid gradually thickens to form a pale brown mucilage, which is set aside and stirred until uniform. Dissolve the vanillin and oil of anise in the 90 per cent alcohol, and add slowly to the mucilage, with constant stirring.

Triturate the barium sulphate with sufficient water to produce nearly two gallons. Add the mucilage, stir well, and adjust with water to four gallons. Pass the product through a suitable sieve. Stir well, and transfer immediately to the final containers.

The usual oral dose of the cream is one pint. It can be thickened by addition of more barium sulphate for examination of the oesophagus. For rectal use it is diluted with water to a suitable consistency, and the quantity used is from two to four pints.

## Mascaras

*In a brief discussion on mascaras in The Perfumery and Essential Oil Record (40:53,1949) it is noted that such products are usually made in either cake, cream or liquid form. They should be able to be applied evenly with a small brush, should dry fairly quickly and remain permanent, should not cause the eyelashes to stick together and, of course, must be non-toxic to the eyes. They are usually made in dark-brown or black, but some are of very dark blue, and some even colorless. While some cake-types of mascara are still used, they suffer from the disadvantage that they are not water-resistant, for which purpose the greasy type containing about 10 per cent of pigment of dyestuff is more suitable. A suitable greasy base may be made up as follows:*

| | |
|---|---|
| **Oil of theobroma** | **5.0 Gm.** |
| **White petroleum jelly** | **55.0 Gm.** |
| **Soft paraffin wax (m.p. 110°-118°)** | **5.0 Gm.** |
| **Lampblack** | **45.0 Gm.** |

*This will give a good black mascara which is readily applied and dries evenly, remaining permanent over several days, only occasional touching-up being required. There is nothing injurious to the eye in the ingredients. Rosin solution in which carbon black is suspended is the basis of many preparations, the main drawback being that if dropped into the eye they are irritating, and give much discomfort. A suspension giving quite good results was made from:*

| | |
|---|---|
| **Castor oil** | **5.0 cc.** |
| **Rectified spirit (90%)** | **80.0 cc.** |
| **10% Rosin solution (alcoholic)** | **3.5 cc.** |
| **Lampblack** | **15.0 Gm.** |

*A warning should here be given of the dermatological effects of some dyes on the eyes. Bismarck brown and chrysoidine have been found to be irritant, and cases of palpebritis from such dyes have been recorded. Only safe dyes should be used in the preparation of mascara, for which reputable manufacturers should be consulted and the full facts of use and formulae given.*

## T.G.A. Standards for Methylcellulose and Thioglycolic Acid

Standards for two important cosmetic raw materials have been prepared by the Board of Standards of The Toilet Goods Association, Inc. The first of these, T.G.A. Specification No. 30, covers methylcellulose, which is described as a white fibrous powder that is chemically a methyl ether of cellulose. Test procedures and standards are given for solubility, identification, residue on ignition, moisture, reaction, chloride content, alkalinity, methoxyl content, and viscosity. Equipment and methods for determining methoxyl percentage and viscosity are given.

The second set of standards, T.G.A. Specification No. 31, refers to thioglycolic acid—cosmetic grade. This is defined as a colorless to light yellow aqueous solution consisting essentially of thioglycolic acid ($HSCH_2COOH$). Test methods and standards are given for identification, solubility, color, odor, ash and thioglycolic acid content. Maximum permitted quantities of dithioglycolic acid, iron, copper, lead and arsenic are also specified and procedures for their determination by T.G.A. methods are given.

## Thiamin Elixir

*According to a recent note from the Bureau of Professional Relations, University of Florida, College of Pharmacy, the following Elixer Thiamin has been added to the "Accepted Florida Formulary:"*

| | |
|---|---|
| **Thiamin hydrochloride** | **0.2 Gm.** |
| **Syrup of citric acid** | **120.0 cc.** |
| **Syrup of orange** | **120.0 cc.** |
| **Sherry wine, to make** | **480.0 cc.** |

*Each fluid ounce of this highly palatable elixer will supply 12 milligrams of thiamin hydrochloride. Elixir Thiamine leads itself to combination with many drugs such as bromides, ferrous sulfate, dilute hydrochloric acid, atropine sulfate, pepsin, chloral hydrate, or sodium citrate.*

## Analysis of Permanent Wave Solutions

In a report on hair preparations appearing in *Soap, Perfumery & Cosmetics* (22:52, 1949), G. V. James supplies the analytical data on the following permanent waving solution:

| | |
|---|---|
| **Sodium sulphite crystals** | **30.3 per cent** |
| **Sodium soap** | **2.0 " "** |
| **Water, to make** | **100.0 " "** |
| **Water-soluble dye** | **q.s.** |

It is pointed out tha' this solution, though simple in constitution, is rather typical of its class. Due to the tendency of the sulphite solution to oxidize on exposure to the useless sulphate, it is imperative to keep the product in well-filled, closely stoppered bottles. Frequently the sulphites are included with ammonium carbonate, traces of fixed alkalis such as sodium carbonate or borax. The formula obtained by analysis can be compared with one suggested by Auch in 1947:

| | |
|---|---|
| **Potassium sulphite** | **5.50 per cent** |
| **Borax** | **2.65 " "** |
| **Sodium carbonate** | **0.45 " "** |
| **Ammonium carbonate** | **0.25 " "** |
| **Perfume** | **2.5 " "** |
| **Distilled water, to make** | **100.00 " "** |

James also made a study of cold permanent wave solutions. His analytical findings with respect to such products are tabulated as follows:

| | a | b | c | d |
|---|---|---|---|---|
| **Sodium Thioglycollate** | 5.16 | — | — | — |
| **0.880 Ammonia** | 5.4 | 3.4 | 4.3 | 5.4 |
| **Perfume** | — | q.s. | — | — |
| **Colour** | q.s. | — | — | — |
| **Thioglycollic acid** | — | 4.3 | 5.1 | 6.3 |
| **Sulphonated Castor Oil** | — | + | + | + |
| **Water, to make** | 100 | 100 | 100 | 100 |

The amount of sulphonated castor oil was not determined, but use of this may cause deposits on long standing. A deposit may be left in the hair, especially in "hard" water districts.

It is stressed that those intending to manufacture cold wave solutions must study the patent situation. It is also pointed out that the requisite neutralizing solutions are not included in these analyses.

## Belgian Study of Face Powders

*The publishers of the Belgian periodical, Alchimist (2:279, 1948) have made a very indicative study of face powders. A compilation of formulas from published sources was made. After the elimination of obviously unsatisfactory mixtures as well as "repeaters," twelve basic formulas remained. An investigation with regard to preferences was made with these products and it was found that the following formula yielded a powder that received the largest number of votes:*

| | |
|---|---|
| **Kaolin** | **470** |
| **Rice starch** | **200** |
| **Talcum** | **150** |
| **Titanium bioxide** | **80** |
| **Magnesium carbonate** | **50** |
| **Magnesium stearate** | **50** |

*It is interesting to note that rice starch is an important constituent of this most popular powder. However, the next most popular face powder base, given below, does not contain this material:*

| | |
|---|---|
| **Talcum** | **790** |
| **Calcium carbonate, precipitated** | **90** |
| **Titanium bioxide** | **80** |
| **Magnesium stearate** | **50** |

## Paste and Cream Rouge

In *Schimmel Briefs* for March, 1949 it is remarked that even though the ointment type rouge is not as popular as the compact rouge, it does have certain advantages. For example, the use of an oily or creamy vehicle for the red pigments makes possible a more subtle blending of the applied color with the natural color of the skin than can be achieved with a rouge powder. Moreover an oily rouge base makes a good foundation for face powder and is beneficial to a dry skin. It is noted that the simplest form of paste rouge consists of insoluble cosmetic colors dispersed in a grease base. A suitable base may be made by blending petrolatum, mineral oil and waxes such as beeswax, ceresin or spermaceti to form a rather soft ointment. Lanolin and cetyl alcohol may be added to improve the emollient properties of the base and make it spread more easily. Two formulas for rouge bases are given below for the sake of illustration but many other combinations of ingredients could be devised which would give bases of satisfactory consistency.

I

| | |
|---|---|
| **White beeswax** | **5.0** |
| **Stearic acid** | **7.0** |
| **Cetyl alcohol** | **3.5** |
| **Petrolatum, short fibre** | **77.0** |
| **Mineral oil** | **7.5** |

II

| | |
|---|---|
| **Petrolatum, short fibre** | **23.0** |
| **Ceresin (m.p. 64°C.)** | **21.0** |
| **Spermaceti** | **3.0** |
| **Mineral oil** | **53.0** |

The ingredients of the base are melted together on the water bath until thoroughly blended and then cooled. To make up the finished rouge the required amount of white base is melted and the cosmetic color (6—8 per cent) and perfume oil (1—2 per cent) are added. The mixture is milled until the color is thoroughly dispersed and then poured into jars.

The lakes of coal tar dyes which have been certified for purity by the U. S. Food and Drug Administration are used as the source of color in paste rouge. There are several types of lakes, all of which are insoluble in the grease base and are simply dispersed in it in a very fine state of subdivision.

Emulsified rouge bases not only spread more easily over the skin, but they also have a more pleasing texture. A typical formula for a cream rouge is as follows:

| | |
|---|---|
| **Glyceryl monostearate (self-emulsifying)** | **11.0** |
| **Spermaceti** | **4.5** |
| **Glycerine** | **4.5** |
| **Water** | **71.0** |
| **Color lakes** | **8.0** |
| **Perfume** | **1.0** |
| **Preservative** | **sufficient** |

Heat together all ingredients except perfume and lakes at 90°C. and stir until mixture becomes a smooth cream. Cool to 50°, then add perfume and color and mill until the pigments are uniformly dispersed.

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# Advancing Therapy

## Combining Sulfonamides and Antibiotics

In the *American Journal of Public Health* (39:340, 1949), C. W. Price and his associates note that an intensive search is being made to discover new antibiotic agents, and numerous studies are under way to explore the possibilities of combining antibiotic agents with each other and with various sulfonamides in order to provide more effective remedies. Combinations of these agents might have three possible results: the effect of the mixture may be simply additive; it may be synergistic, that is, the mixture would have a greater effect than the sum of the effects of the active ingredients; and finally, the reverse could occur and the mixture produce a lesser effect than the sum of the effects of the active constituents. The simultaneous use of more than one therapeutic agent in combating infections is designed to bring about a more rapid and effective eradication of the causative agents, to prevent the development of resistant variants, and possibly to extend the range of antibacterial activity. More than one chemotherapeutic agent might be used also in infections cuased by more than one organism.

It was on the basis of such considerations that a series of investigations were started in which Combinations of aureomycin, bacitracin, chloromycetin, penicillin, polymxin, streptomycin, sulfadiazine, sulfamerazine, and sulfathiazole were tested for possible synergistic action utilizing *S. typhosa* as a test organism, *in vitro* and *in vivo*.

Of the combinations tested *in vitro*, polymyxin showed a synergistic effect with aureomycin, bacitracin, penicillin, and streptomycin; penicillin with aureomycin and streptomycin; and streptomycin with sulfadiazine and sulfathizaole. Of the combinations tested *in vivo*, penicillin produced a synergistic effect with streptomycin, sulfadiazine, aureomycin, sulfamerazine, and sulfathiazole; streptomycinw ith sulfadiazine, sulfamerazine, and sulfathiazole; and chloromycetin with sulfamerazine and sulfathiazole. Although a synergistic action was demonstrable with a number of combinations of the chemotherapeutic agents tested, in only 50 per cent of these combinations did the *in vitro* method correlate with *in vivo* tests.

## Thiopental Sodium in Oral Surgery

**In discussing anesthesics as used in oral surgery, S. Everson (J. Am. Dent. Assoc. 38:163, 1949) observes that there is no doubt tht a local anesthetic is the safest agent. However, the majority of patients request a general anesthetic for oral surgical operations, and thiopental sodium, because of its numerous advantages, is becoming increasingly popular. After employing thiopental sodium, with or without nitrous oxide as a supplement, for all types of operative procedures in the field of oral surgery, he is convinced that this anesthetic approaches the ideal in general anesthesia for office use when the drug is administered by a thoroughly trained anesthetist who is able to deal with any situation which may present itself. Everson states that thiopental sodium, which is administered intravenously, has the following advantages: 1. It is noninflammable and nonexplosive, permitting its use in the presence of live cautery. 2. Induction is easy and convenient. 3. It produces relaxation adequate for oral surgery. 4. Postoperative recovery is rapid without nausea. 5. Induction is rapid, a boon for apprehensive patients. 6. The patient's appreciation of the experience eliminates fear or apprehension of future anesthetic experience.**

**Everson stresses that it is absolutely imperative that a history of the patient be obtained before administration of thiopental sodium. There are many contraindications some relative and a few absolute. The most common ones are: 1. Any serious interference with respiratory function, especially if there is mechanical obstruction of the respiratory passages. 2. Chronic pulmonary disease characterized by production of large amounts of sputum such as bronchitis and bronchiectasis. The hazard of respiratory obstruction or laryngospasm from such secretions is great. 3. Serious cardiac disease, especially where there is congestive failure, angina pectoris or any other evidence of disease of the coronary artery. 4. Any debilitating condition, such as chronic illness, severe anemia or any other disorder that might make the patient a poor risk for any type of general anesthesia. 5. Structural abnormalities, such as ankylosis of the jaws, which might interfere with proper access to the mouth and pharynx. 6. Patients with systolic blood pressures over 200 mm. or under 90 mm. of mercury. 7. Very young or very old patients. Under no circumstances, except possibly in extreme emergency, should a patient be given an intravenous anesthetic if he has partaken of food or drink within the preceding four hours. Vomiting and aspiration of the vomitus are serious hazards, difficult to manage, and serious pulmonary complication or fatality may result.**

## Sensitization to Petrolatum in Ointments

In a report on the *Annals of Allergy* (6:579, 1948), S. J. Levin and S. S. Moss direct attention to the fact that many of the patients with chronic dermatitis presenting themselves for allergic study have been under treatment for months or years. These patients have had many ointments prescribed, the bases of which almost invariably contain petrolatum. Sensitivity may be acquired more readily through the broken than through the normal skin. The conditions for the acquisition of secondary sensitivities in the case of dermatitis are ideal; i.e., the repeated and frequent application of a substance to the broken skin over a long period of time. It is not surprising, therefore, that under these conditions sensitivity to medicaments is frequently encountered. Six cases of definite sensitivity to petrolatum or related substances are reported. Patch tests on normal skin for purified petrolatum rarely elicit positive reactions.

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Usage tests are a valuable means of making a diagnosis of petrolatum sensitivity. The results may be positive on affected sites and later negative on the same healed sites. In view of the widespread use of ointment bases containing petrolatum and mineral oil or both for the local treatment of the allergic dermatoses, the possibility of sensitization to these items should be kept in mind. Recently Levin and Moss have encountered 4 additional cases of definite sensitivity to petrolatum. These patients were all negative to patch tests and positive to the usage tests carried out on the affected sites.

### Para-aminobenzoic Acid in Leucemia

**Five patients with myeloid leucemia who were treated with para-aminobenzoic acid by May and Vallance-Owen (Lancet 2:607, 1948) showed a "remarkable drop" in total leucocyte count. In all cases the count had been brought to within normal limits in twenty-one days. When treatment ceased the count rose, to be followed by another rapid fall when treatment recommenced. The drug was given two-hourly in doses of 0.5 Gm. per pound of body weight per twenty-four hours.**

### Streptomycin for Urinary Infections

Results of streptomycin therapy have been reported by R. W. Satterthwaite and T. T. White (*J. Urology* 60:678, 1948) in 51 cases of urinary tract infections. They found that in 14 of 15 patients with acute severe pyelonephritis following ureteral obstruction due to calculi, fever subsided promptly and the urine cleared grossly. Six of eight cases with urinary sinus tracts healed completely; two cases were improved. Symptoms were relieved in two of three cases of chronic interstitial cystitis, but final evaluation of treatment was deferred. Total arrest of symptoms was obtained in three patients with gonococcic urethritis resistant to penicillin and sulfadiazine. In four cases of tuberculous cystitis, bladder lesions healed during or after streptomycin therapy, although only two of these cases were free of tuberculosis in other parts of the genito-urinary tract. No improvement occurred in a case of tuberculosis of the seminal tract. Dosage of streptomycin was 1 or 1.5 Gm. per day in most cases. Effectiveness of streptomycin was usually apparent by the fifth day of treatment.

### Veratrum Viride in Hypertension

**The results of a clinical trial of Veratrum viride in 40 patients with essential hypertension is reported by E. D. Fries and J. R. Stanton (Am. Heart J. 36:641, 1948). The substance was administered orally in the form of the whole powdered mixture of alkaloids. When the drug was administered by the oral route, the hypertensive effect began to appear at the end of one or two hours, reached a maximum in four or six hours and largely disappeared by the end of fourteen hours. In order to obtain maximum therapeutic benefit and to avoid toxic reactions resulting from cummulative overdosage, the drug was administered at dosage intervals of twelve hours. In addition, in order to provide greater therapeutic safety, this dosage interval was further subdivided so that no more than 10 Craw units were ingested per hour. The great variability of response to a given dose in different persons required the gradual increase of dosage in each patient in order to avoid toxic side effects. Veratrum was found to be a useful therapeutic agent in the treatment of patients with "hypertensive crisis," severe long-standing hypertensive disease which proved resistant to other forms of treatment and hypertension complicated by cardiac failure. Prolonged therapy in some cases resulted in a diminution in cardiac size and reversal of electrocardiographic changes toward normal. There were no deaths and no toxic reactions resulting in more than transient disability. However, the development of side effects and of changing sensitivity to a given dose were sufficiently frequent to limit its usefulness in the treatment of patients with mild or moderate degrees of hypertension. In the opinion of Fries and Stanton, Veratrum viride appears to have therapeutic value as an adjunct to dietotherapy and to the routine treatment of hypertensive heart disease.**

### Undecylenic Acid for Psoriasis and Neurodermatitis

Many drugs have been employed in the treatment of psoriasis and neuroderm atitis. A new approach is the use of undecylinic acid, an agent that has been widely employed as a fungicide for skin infections. In a preliminary report, H. H. Perlman (*J. A. M. A.* 139:444, 1949) states that in his investigations a series of 17 patients with chronic psoriasis, both localized and generalized, were given gradually increased doses of undecylenic acid by mouth for varying periods of time, with definite improvement in the psoriasis characterized by a disappearance of the psoriatic lesions, a permanent relief of the itching complained of and, in several instances, associated with arthropathies, a definite disappearance or improvement in the joint pains. A series of 8 patients with neurodermatitis were treated with undecylenic acid by mouth for varying periods of time, with improvement or disappearance of the lesions and itching. Perlman stresses, however, that definite claims for undecylenic acid cannot be made from the comparatively small number of patients studied at this time. However, undecylenic acid seems to hold a great deal of promise in the improvement and possible prevention of recurrences of psoriasis and neurodermatitis. Time alone will tell the story of this unsaturated fatty acid in the treatment not only of these diseases but of many unrelated disturbances.

### New Drug for Parkinson's Disease

**In the Journal of the American Medical Association (139:629, 1949) R. S. Schwab and D. Leigh report tests with a new agent that is far more efficient than the atropine-like drugs for the therapy of Parkinson's disease. This drug, called "Parpanit" (diethylaminoethyl-1-phenylcyclopentane-1-carboxylate hydrochloride) has been used in 50 patients with Parkinson's disease during the past year. The effect of the drug has been measured quantitatively, subjectively and in control with placebo medication and the substances that the patients had received previously. Treatment with the drug was observed to be superior to the previous medication in 65 per cent of this group of patients. The degree of improvement was usually around 25 per cent. It is essential that one administer the drug cautiously in divided doses five times a day and watch carefully for side effects from overdosage. If this regimen is followed, very satisfactory results with this new compound will follow.**

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## Vitamin $B_{12}$

(*Continued from page 696*)

The severe glossitis present in some cases of macrocytic anemia heals spectacularly. In patients with sprue and nutritional macrocytic anemia there is a decrease in the number of stools and a tendency for the stools to return to normal."

There is, of course, a certain relationship between the several conditions amenable to therapy with vitamin $B_{12}$ It has long been known that there are many types of anemia. The simplest is that caused by lack of iron, as shown by a lowered hemoglobin concentration. Students of the anemias realized long ago that some of these conditions must have some cause other than lack of iron. The disease called pernicious anemia, discovered by Addison in 1849, is an excellent example, as is sprue. Another variant, called nutritional macrocytic anemia is often seen as as part of the syndrome of various conditions such as pellagra and pregnancy. In these anemias, there is not merely a smaller quantity of hemoglobin, but also a decrease in the number and change in the size of the circulating red blood cells together with possible decreases in the number of white cells and blood platelets.[19]

Vitamin $B_{12}$ finds its major indication in the treatment of pernicious anemia. West[3] was the first to demonstrate its clinical effectiveness in three cases of Addisonian pernicious anemia. In the first patient, 150 micrograms of vitamin $B_{12}$ were administered intramuscularly as a single dose. The reticulocyte count rose from 0.5 per cent to 27.0 per cent in five days, and the red blood cell count from 1.5 to 3.4 million in twenty-three days. Incidentally, it may be pointed out that the normal red cell value is 4.5 to 5 million per cubic mm.

The other two patients, received 6 and 3 micrograms of vitamin $B_{12}$, respectively. They showed good reticulocyte response, hemoglobin rises and improved red cell counts during the two-week period for which values were reported.

Soon others confirmed and extended these observations. Spies and his associates,[20] for example, found that the intramuscular injection of a sterile solution of crystalline vitamin $B_{12}$ to two cases of pernicious anemia was followed by a positive hematologic response. In addition they observed a great clinical improvement in these patients. Spies and his colleagues[18,21] also reported that the severe glossitis, stomatitis, and other mucous membrane lesions complicating pernicious anemia were relieved within 24 to 48 hours by treatment with vitamin $B_{12}$. This was in marked contrast to folic acid which was ineffectual for such lesions even when administered in large doses for nearly three months.

Also very indicative are the findings reported by Hall and Campbell[22] on the effect of vitamin $B_{12}$ therapy on the hematopoietic system of eleven patients with pernicious anemia. Prior to treatment, the erythrocyte counts of eight of these patients were less than 2.0

million cells per cubic mm. of blood, and in the other three the counts were between 2.5 and 3.0 million. After the administration of vitamin $B_{12}$, reteculocyte peaks of from 7.2 to 39.0 per cent were noted in the group of cases in which the initial red cell counts were less than 2.0 million, and from 2.1 to 9.7 per cent in the other group. Concomitant with the increase in the number of erythrocytes, values for leukocytes and blood platelets returned to normal in all patients in which they were subnormal prior to the institution of therapy.

One of the crucial tests of the value of any agent for the treatment of pernicious anemia is its effect on the neurologic as well as the hematologic manifestations of the disease. Folic acid, for example, despite its efficacy in other respects, will not prevent the development of neural disturbances in persons with pernicious anemia.[23] It is therefore particularly important to note that vitamin $B_{12}$ is effective not merely in improving the blood picture, but also against the neurological manifestations.

This is well indicated in a number of reports. Thus, following vitamin $B_{12}$ therapy in the series of patients studied by Hall and Campbell,[23] varying degrees of improvement in the neurological manifestations were observed in three patients who had peripheral neuritis, and in five of six patients who had peripheral neuritis and subacute combined degeneration of the spinal cord. In England, Ungley[24] stated that three patients with subacute combined degeneration were improved by injections of vitamin $B_{12}$.

Frequently cited is the careful study made by Berk and his associates.[25] They treated a patient with pernicious anemia with severe neurological symptoms with 5 micrograms of vitamin $B_{12}$ per day for eight days. After ten days, during which the blood picture steadily improved, remarkable changes in the neurological signs were already apparent. Feelings of numbness had already vanished by the fourth day, but by the tenth day reflex responses had returned to normal, unsteadiness was gone and the patient could walk unassisted. With cessation of vitamin $B_{12}$ administration, there was a reappearance of the neurological symptoms. Resumption of therapy again resulted in neurological improvement, thereby establishing that vitamin $B_{12}$ was responsible for the neurological benefits. The patient showed severe sensitivity to purified liver extracts, but not to vitamin $B_{12}$. This, of course, suggests that the vitamin is not responsible for sensitivity reactions to liver extracts.

Especially significant is the statement by Spies and his colleagues[11] that vitamin $B_{12}$ is the only pure chemical substance known to be effective in relieving subacute combined degeneration in persons with pernicious anemia. This statement is based, of course, on their observations[26] that in patients with subacute combined degeneration of the spinal cord there is an improvement in the neurological condition following the injection of vitamin $B_{12}$. They stress, however, that more time is

(*Continued on page 764*)

# Perfumer's Shelf

### Physiological Form of Boronia Ledifolia

The essential oil of a physiological form of *Boronia ledifolia* is discussed by A. R. Penfold and F. R. Morrison (*J. Proc. Ray. Soc. N. S. Wales* 82:71, 1948). They report that the new variety of this plant is differentiated from others of the same species by the presence of about 75 per cent of methyl heptyl ketone and methyl monyl ketone in the essential oil. Other unidentified substances present are thought to be alpha-pinene, sesquiterpenes and methyl anthranilate.

### Booklet on Drug and Condiment Plants

In December, 1948, the U. S. Department of Agriculture issued a comprehensive booklet titled, "Production of Drug and Condiment Plants" (Farmers' Bull. No. 1999). This new publication supersends the report "Drug Plants Under Cultivation" (Farmers Bull. No. 663). In the preface to the new publication, which was prepared by A. F. Sievers, it is pointed out that interest continues from year to year in the possibility of growing medicinal and condiment plants for profit. Many of these plants are grown abroad under sail and climatic conditions similar to those in many parts of the United States, and large sums are expanded annually for the imported products. American dependence on foreign sources for botanical drugs and condiments was clearly shown during the two world wars. Supplies on hand were soon exhausted and market values increased rapidly. To reduce dependence on foreign sources and to provide even a small additional source of income to farmers when conditions are favorable, the cultivation of drug and condiment plants should be encouraged whenever circumstances indicate the possibility of success.

It was to further this purpose that "Production of Drugs and Condiment Plants" was published. The text discusses economic background, the more important plants and potential yields. Considerable information is also supplied on propagation, culture, harvesting drying, distillation of volatile oils, baling, packing and storing, and also on marketing. Sievers points out that well over two hundred species and varieties of drug and condiment plants are collected from all parts of the world for use in this country. However, the number needed to produce the most essential products is relatively small. Specific data on the cultivation of sixty individual species is given; ranging from aconite to wormwood.

### Labiate Family of Perfume Plants

In *The Perfumery and Essential Oil Record* for February, 1949, E. Hardy points out that the *Labiatae* family of plants is the most common source of essential oils. The chief center of this family is the Mediterranean region, although many species are to be found in England and America as well as other parts of the world, totalling about 2,800 species of 150 genera. Such plants may be annual or perennial, heath-like herbs or shrubs (never trees), but they are characterized by their square stems. They mostly grow in such dry places that the waste products of the plant are not got rid of by transpiration, but stored in the plant in a non-soluble form as essential oils, which are scented and volatile and secreted by epidermal glands, give the plants their characteristic odor. These oils are chiefly in their leaves, hence their age-old use for flavoring—mints, sages, thymes, savouries, basil, rosemary, balm, majorum, and lavender, for example. The essential oil develops most in plants which are grown fairly hard, in a sunny position, and not allowed to become lush in the shade, and its content is generally at its maximum just when the flowers are ready to open. They are all easily increased by vegetative reproduction (cuttings) like garden mint.

In the British flora, says Hardy, the family has about 45 wild species which are most noticeable in late summer in the hemp-nettles, dead-nettles, woundworts, betony, mints, catmints, skullcaps, and horehounds, although there is also the familiar strongly-scented ground ivy and bugle of the spring. Not a single British or foreign member of the family has any harmful properties to the human being. The mints (*Mentha*) as a whole represent the peak of that high specialization which makes the Labiates so valuable as sources of essential oils.

Hardy considers it remarkable that several interesting plant perfumes of the fragrant Labiate plants of the Eastern Mediterranean regions have so long been neglected until modern Jewish chemists have turned to them in developing Palestine's perfumery and toilet manufactures of recent years. The most interesting example he found there was the thyme-leaved savoury (*Micromeria serpyllifolia* (M.B.) Boiss.), which he collected in later summer in abundance on the hills between Jerusalem and Jaffa, at the Government forestry of Bab el Wad, in September, where its powerful fragrance (like a deep, strong peppermint) is produced, like many plants of sub-tropical and Mediterranean regions, to cool the surrounding air and protect the plant from the burning heat of the sun. He also notes that in Tel Aviv essential oils are being extracted from several very common perfume plants of the Palestine hills, such as the leaves and flowering tops of the three-lobed sage, *Salvia triloba*, L., and of the wild savoury, *Satureja thymbra*, L., and the thyme, *Thymus capitatus* (L.) Lk. Hoffmet. Also from the leaves of the peppermint, *Mentha piperita*, L.

### Flavoring Agents in Tooth Pastes

In a discussion of recent developments in the preparation of toothpastes, A. G. Arend (*Perf. & Essent. Oil Rec.* 40:48, 1949) points out that the flavor of the finished toothpaste is considered to be one of its main selling advantages. While the use of peppermint in its different forms dates back to the earliest preparations, the fruit flavors which are now incorporated, either with or without the peppermint base, are certainly an innovation. Stability is the key-note of success in using these flavors, as an

unstable one which will dissipate readily is worthless, irrespective of the proportion included. As many as a dozen constituents were used formerly, but nowadays the simpler compositions are known to be the most easily controlled during manufacture.

First, there are numerous peppermint oils from which to choose. Then there are fruit flavors using the magnesium salts of various fruit acids, and citrates and tartrates. Secondly, there are the more medicinal substances such as thymol, eucalyptol, etc., although they must not interfere with or upset the balance of the finished preparation. And thirdly, a large number of other oils are available which add to the refreshing delicate flavor of the toothpaste. Specialists in this field have already given as many as 20 different types of formulae, while something like 40 patients protecting specific compositions were taken out in the U.S.A. during the war years alone.

The main feature in making a selection is usually to incorporate a distinctive refreshing flavor into a particular brand, and most especially one which cannot be readily copied by competitors. As a rule, the medicinal agents are too distinctive in flavor to be readily concealed, but the same cannot always be said of some selected essential oils.

The total flavoring agent ranges from 1 to 3 per cent of the composition, but where the best oils only are used, less than 1 per cent is sufficient. The usual flavors include rose, carraway, wintergreen, anethol, lavender, eugenol, cinnamon, cassia, etc., besides the eucalyptol or more medicinal additions, and different selected mints. These ingredients are rarely the cause of any undesirable hardening of the ultimate paste, any more than is the addition of a sweetening agent.

## Essential Oils In Soviet Georgia

According to a note in the *Chemist and Druggist* (151:479, 1949), the cultivation of plants for the production of essential oils is being strongly encouraged in the Georgian Republic of the Soviet Union. One of the principal perfume sources to be developed is the geranium (*Pelargonium* spp.), from which many tons of oil are now produced annually. In 1947 at least 7,000,000 cuttings were prepared and energetic steps are now being taken to increase cultivation. The Suhum zonal experimental station has developed a new variety, yielding three times as much oil as the rose geranium hitherto employed. Experimental crops have given very satisfactory results, and it is planned to have from 700 to 800 hectares under this new crop by the end of five years. A green oil is also produced from it. Another novelty in Soviet Georgia is rose-farming, a technique introduced from the famous rose gardens of Kazanlik in Bulgaria. A third important plant is basil, *Ocimum basilicum*. This herb, which has so ancient and high a repute in the East that it has earned the name of *vasilikon* (the royal), is now being cultivated in Georgia on a considerable scale, the farms of the Lagodekhi Region producing as much as six or seven tons of green basil oil. Other plants grown are patchouli, tuberose, big-flowered jasmine, and some others that are of particular value in the production of fixatives.

## Cooling Cologne

In his regular column in *The New York Physician* (32:12, April, 1949) F. D. Lascoff presents the following cooling Eau de Cologne formula as one of his seasonal prescriptions:

| | |
|---|---|
| **Oil of Bergamot** | **2.0** |
| **Oil of Lavender** | **2.0** |
| **Camphor** | **0.5** |
| **Menthol** | **0.5** |
| **Alcohol, to make** | **100.0** |

## Essential Oil of Ledum Palustre

In investigations of *Ledum palustre*, N. P. Kiryalov (*Doklady Akad. Nauk U.S.S.R.* 61:305, 1948, through *Chem. Abstr.* 43:1155, 1949) found that steam distillation of the fresh leaves gave 0.7 to 1.6 per cent yield of the essential oil, which had the following properties:

| | |
|---|---|
| **Specific Gravity** | **0.9085** |
| **Index of refraction** | **1.4882** |
| **Specific rotation** | **–12.5°** |

On chilling, this oil gave ledol ($C_{15}H_{26}O$), a saturated sesquiterpene tertiary alcohol. The filtrate was separated into several fractions by vacuum distillation. It was found that the higher boiling fraction contains up to 70 per cent or more of alcohols. After freezing out the traces of ledol, the residues were treated with acetone-potassium permanganate (3 per cent) until decolorization ceased and the filtrate was steam-distilled, yielding almost pure a new alcohol, palustrol. With the chemical composition of $C_{15}H_{26}O$, palustrol has the following physical properties:

| | |
|---|---|
| **Specific gravity** | **0.9646** |
| **Index of refraction** | **1.4910** |
| **Specific rotation** | **–15.5°** |

This saturated alcohol, like ledol, is not affected by potassium permanganate and readily loses water on treatment with acids, yielding various hydrocarbons. Further studies showed that palustrol is a tertiary tricyclic sesquiterpene alcohol derived from the azulenes.

## Physiological Form of Eucalyptus Citriodora

In the *Australian Journal of Science* (11:29, 1948), A. R. Penfold and F. R. Morrison describe a form of *Eucalyptus citroiodora* in which the principal constituents are citronellol and its esters instead of citronellal. The characteristics of the normal oil are as follows:

**Specific gravity** .....0.8607 to 0.874
**Index in refraction**..1.4498 to 1.4575
**Specific rotation** ....–0.2 to + 1.5°
**Citronellal content** .65 to 85 per cent

In contrast, the characteristics of the physiologic oil are:

| | |
|---|---|
| **Specific gravity** | **0.8898** |
| **Index refraction** | **1.4580** |
| **Specific rotation** | **+2.7°** |
| **Citronellal content** | **.....7 per cent** |

## Peppermint and Spearmint Spirits

In the preparation of Peppermint Spirit and Spearmint Spirit, the United States Pharmacopoeia directs that the respective plant materials be macerated with water for one hour and then strongly expressed. The moist plant material is then macerated with alcohol for a period of six hours. The purpose of the maceration with water is to remove the brown coloring matter which, if not moved, would impart an undesired color to the finished preparation. The purpose of the maceration with alcohol is to extract the chlorophyll from the plant material, thus producing the clear, dark green color desired.

In an attempt to discover whether the six-hour maceration period specified by the Pharmacopoeia was actually necessary to extract satisfactorily the chlorophyll from peppermint and spearmint, L. M. Ohmart (*J.A.Ph.A.*, Proct. Ed. 10:222, 1949) undertook a series of investigations. As a result of these studies he found that in the preparation of Peppermint Spirit and Spearmint Spirit, the length of the period of maceration with alcohol may be reduced materially without significantly affecting the intensity of color of the finished product. From the results obtained with the Duboscq colorimeter, it would appear that a maceration time of one or two hours is sufficiently long to accomplish the objective of the maceration.

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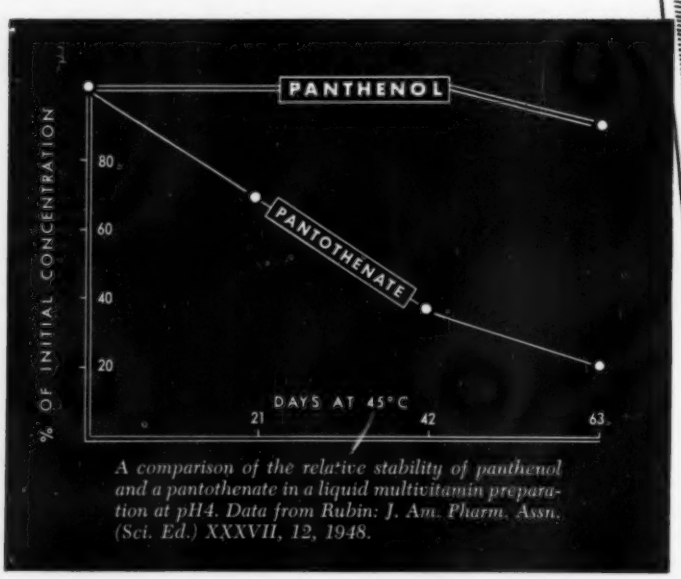


*A comparison of the relative stability of panthenol and a pantothenate in a liquid multivitamin preparation at pH4. Data from Rubin: J. Am. Pharm. Assn. (Sci. Ed.) XXXVII, 12, 1948.*

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# Abreast of the Markets

## *Spot Menthol Reaches Ten Dollars In Spectacular Price Advance. Glycerin Production Increases 20%.*

The most striking increase of any division of the American chemical manufacturing industry is shown by the group, "medicinal chemicals." The value of its products in 1947 amounted to $201.8 million as compared with $21.0 million in 1939, an increase of 860 per cent over the prewar year. This growth probably has not been paralleled by any other branch of the chemical industry. The Census Bureau states that this phenomenal increase is partly due to the manufacture in recent years of new products such as penicillin, and the increased use of other products of this industry such as bulk vitamins.

The medicinal chemicals industry also reported a total of 92 plants in the last census year as contrasted with only 10 establishments before the war. The production workers in the industry amounted to 9,414 in 1947 whereas the number employed prewar was only 1,802.

Production of ethyl alcohol in industrial plants in February amounted to 22,380,513 proof gallons. Stocks at the end of the month were 37,727,446 proof gallons. Principal raw materials used were molasses 12,599,280 gallons; total grains 3,139,057 pounds; ethyl sulfate 7,764,073 gallons, and ethylene 3,619,690 pounds.

Production was the lowest and stocks the highest since the November price break. The 21c per gallon price for ethyl alcohol held unchanged. This low alcohol price cannot continue much longer with a reported contract price of 4 to 4-¾c per gallon for the 1949 molasses crop. A rise to around 30c per gallon is anticipated.

### Menthol Advances Sharply

In one of the most spectacular price movements since the war, natural menthol prices advanced to a range of from $10 to $10.50 per pound. Menthol, derived from peppermint oil, is used in the manufacture of ointments, medicated confections, cosmetics, and in tobacco.

The upward trend which began several weeks ago is attributed in some measure to the war in China, which threatens to shut off supplies from that area, and to a smaller production in Brazil this year.

Annual consumption of menthol in the United States is estimated at between 250 to 300 tons. During the war menthol reached a price as high as $16.50 per pound. In spite of the upward trend here the new prices are still below the prices quoted on immediate shipments from Brazil. Based on replacement costs in Brazil menthol should be selling at $10.60 per pound including duty, freight, insurance and other charges, trade sources say.

Just prior to the war, China was shipping more menthol here than any other source. In 1940, imports from that country for consumption in the United States amounted to over 5,000 cases (60 pounds each). Japan exported approximately 1,363 cases in that year.

As the war cut off shipments from the Far East, Brazil quickly developed its mint plantations, and since that time the United States has been dependent upon its source of supply from the latter country. In 1944 Brazil only had a crop of mint oil producing 50 tons of menthol, but in 1945 menthol production was increased to 600 tons. This year's production of menthol, according to estimates, amounted to less than 100 tons.

The stock of menthol in Hong Kong is about exhausted. It is virtually impossible to ship peppermint oil from the interior to Shanghai under present conditions. Although moderate quantities of menthol are believed to be available in Japan it is understood that India is willing to pay better prices than bids from American importers.

### Glycerin Stocks Increase

Crude glycerin production for the month of January continued the general downward trend manifested throughout the past year. A near-record monthly production of 20 million pounds in January 1948 was reduced to 15 million pounds in November. Likewise, during last year, stocks steadily declined until a dangerously low position prevailed in November.

The foregoing condensation of the 1948 glycerin production history, however, gives little or no indication of the trade anxieties which arose over the possible development of a serious shortage during the third quarter. At that time, demand was in excess of production, due principally to the requirements of the alkyd resin industry. At the same time the soap industry was curtailing output because of the competition of synthetic detergents. As a result, the May 1947 price of refined glycerin was the highest (39c to 40c) since the peak of 50c in 1918.

The above third quarter situation has now been reversed. Production is reported to have increased 20 percent with the advent of synthetic glycerin. Synthetic glycerin helps to offset the decrease of natural glycerin caused by reduction of soap production.

The recent sharp price reduction similarly reversed the buying pressure of the third quarter toward higher levels at which time the possibility of a shortage appeared. This reduction coincides with the sharp fall in the prices of the principal raw materials for saponification glycerin.

Finally, the demand for glycerin, which was so evident during the latter part of 1948 especially for use in resins which consumes 25-30 percent of the supply, is now reported to have slackened. As a result, stocks have been recuperating and are returning to more comfortable levels. A rebound to abnormal stock levels is not now anticipated because of the increased new supply and resultant price positions.

The magnitude of the recent price reduction of 15c per pound for refined glycerin is greater than any individual year's reduction since the record high price of 67.5c in January 1918, which fell to 21.8c by December. The all-time low for the yearly average price for refined glycerin is 10.4c per pound in 1933.

• Prices quoted in this section were current on the first of this month.

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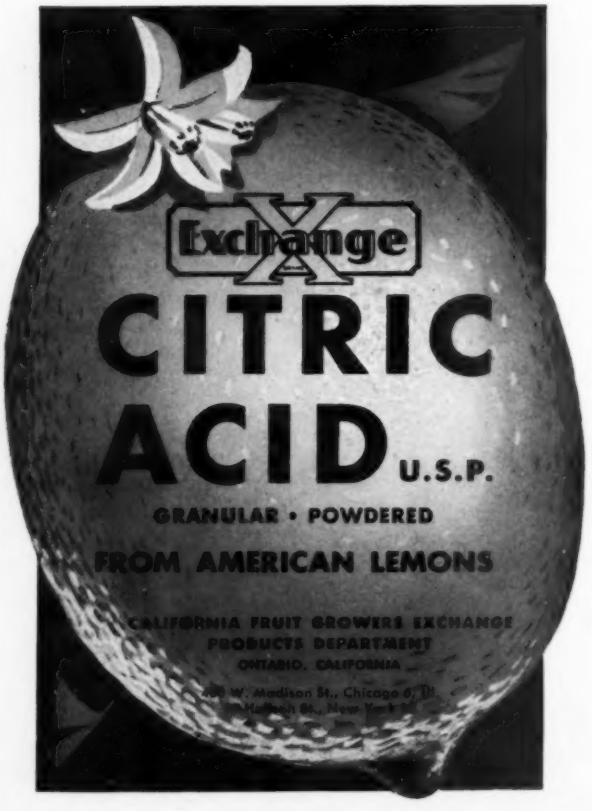


## *Free Market for Vanilla Beans Reestablished. Bourbons Slump to Three Fifty, Mexican Beans Drop.*

A free market in vanilla beans for export has been officially established. News of the event was carried in cables reaching here on May 2 and later advices indicated that the French government order became official when it was published in the Journal Official of May 7. It was further advised that the export tax of 40 percent ad valorem was maintained.

Spot prices on Bourbons were down $3.50 to $3.75 per pound at least. Mexican whole beans dropped to $4 to $4.75 and cuts went down to $3.75 to $4. These prices may prove to be temporary, especially on Bourbon beans. Until firm prices are received from Madagascar it will be impossible to set a genuine market either there or here and firm spot prices will depend on what is actually paid in the island now that price control has ended.

Ultimately, a genuine market will be established by the law of supply and demand in place of arbitrary pronouncements by government authority. And that is an end that had been highly and earnestly wished for by local bean importers for a long time.

The following report on Madagascar Vanilla beans appeared in the May 9th issue of "Foreign Crops and Markets.

"In 1948, Madagascar exported only 387,000 pounds of vanilla beans, as compared with 1947 exports of 1,076,000 pounds, 1946 exports of 1,440,000 pounds, and annual average 1935-39 exports of 892,000 pounds."

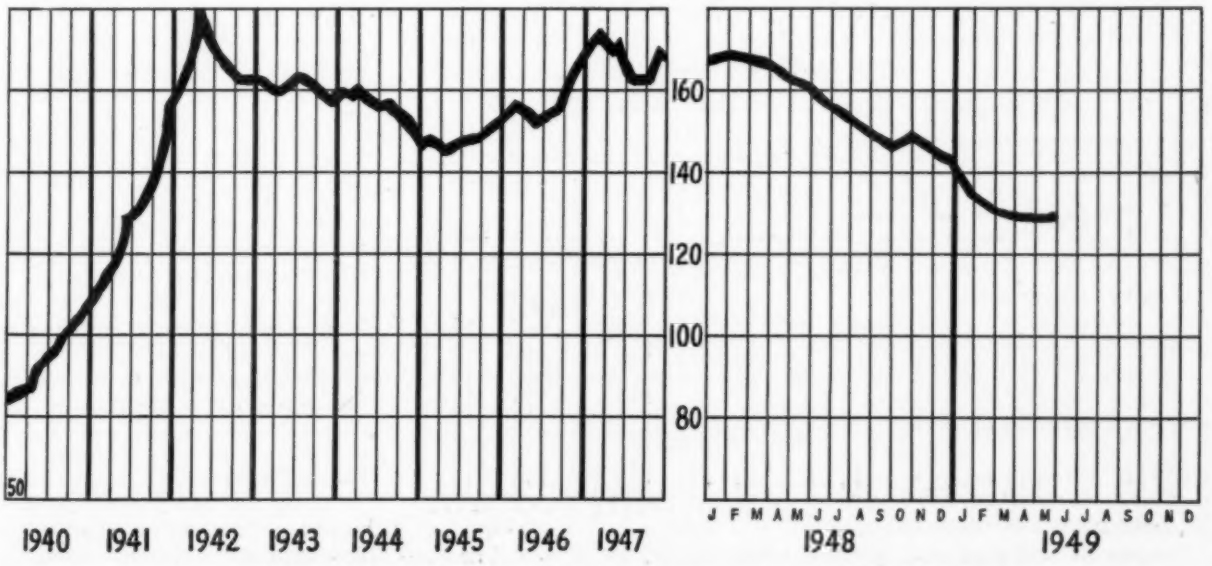
"The United States consumes most of the vanilla produced in the world, and Madagascar is normally the world's largest suppliers of vanilla beans. However, in 1948, the United States purchased less than 5,000 pounds of vanilla beans from Madagascar, in comparison with 842,000 pounds in 1947 and 948,000 pounds in 1946. After the war, stocks of vanilla beans in the United States were low, and United States importers were forced to replenish their stocks largely from Madagascar at official minimum prices which kept getting higher and higher. Finally, on October 30, 1947, the official price of first quality Madagascar vanilla beans was raised to a record high of $7.71 per pound, and United States firms refused to make additional purchases until the restoration of a free market. A stalemate continued throughout 1948."

"To stabilize the market, Madagascar sponsored a program which resulted in the destruction of nearly 1,400,000 pounds of vanilla beans (more than a normal year's world supply) and lowered minimum export prices 35 to 50 percent during the latter part of 1948. Following this action Madagascar officials announced that: (1) prices had been lowered to a reasonable level, (2) stocks of low quality beans have been destroyed at a considerable cost to the government, and (3) steady prices for good quality vanilla will be maintained. They stated that the vanilla trade is speculative enough without returning to the 'miserable conditions' of 1930-34, and there are now signs of a rising interest in purchases by the United States importers."

### Italian Essential Oils

Italy had developed in pre-war years an active industry in essential oils, based on abundant supplies of raw materials. Annual production was around 700 tons lemon juice, 200 tons bergamot oil, 100-150 tons sweet orange juice, twenty tons bitter orange oil and ten tons mandarin oil, plus smaller quantities of mint, lavender, jasmine, and rose oils. Sicily (Palermo, Messina, Syracuse, Catania), Calabria (Reggio Calabria) and Liguria (Nervi, Vallecrosia, Vallebona, Borghetto S. Nicolo) were then, and remain, the most important producing regions. Some of the essential-oil producing industries suffered serious damage during the war. Prompt repairs were carried out but installations at present at work are unable to reach the level of production of 1938-39. Many plants, however, have been modernized during the reconstruction, and the quality of the product has, in some instances, been improved. Despite a large increase in domestic demand, it has been possible to produce large quantities for export. In the first eleven months of 1946, the export

**50 Raw Materials—Weighted Price Index. 1926 = 100.**




The price index of fifty commodities for May advanced from 128.5 to 129.1.

## MAY PRICE CHANGES

**UP**

Soap bark, crushed 2c
Cut 1c
Carnauba Wax #1 6c
Celery Oil 50c
Ergot 22c
Geranium oil Bourbon 50c
Ginger Oil $1.25
Ionone Alpha 10c
Lime oil dist. $1.10
Menthol Natural $1.40
Nux-Vomica Buttons 2c
Papain pure powd. 15c
Pyrethrum flowers 4c
Rhubarb root HD 5c

**DOWN**

Amyl acetate 1c
Anise oil 3c
Apricot kernel oil 1c
Belladonna leaves 10c
Cananga oil Native 5c
Rectified 30c
Candelilla wax 6c
Eugenol 5c
Manna small 10c
Mercury metal $5
Montan wax 2c
Mullein flowers 50c
Pennyroyal oil 10c
Peppermint oil Nat. 40c
Redist 15c
Senega root 10c
Spearmint oil 20c
Vanilla beans Bourbon 75c
Mex. cuts 25c
Mex. whole 25c
Ylang Ylang oil
Bourbon $1
Zinc Oxide 1¼c

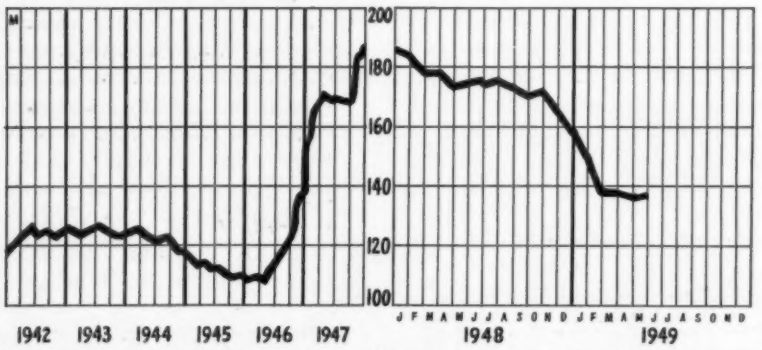
total of essential oils and essences was 711,237 kilos. In 1947-48, output and exports were both higher, and European demand was encouraging to the producers. Labor costs are still high, owing to the proportion of highly-skilled hand workers employed. There is no satisfactory mechanical method of producing the higher grades of citrus oil

### Citric Acid

The Italian citric acid industry is encountering increased competition from the synthetic product, especially in the United States. Works at present in production are being forced to bring down home prices to correspond closely to international prices. If competition is to be maintained, the producers will be obliged to reorganize working conditions and production methods, and to improve or replace equipment. Not only is there an average loss of 12-13 percent of the citric acid contained in the lemons treated, but impurities are left in the product that render the subsequent repurification difficult. There is also a need to improve the co-operative organization of the producers, and to develop by-products, especially pectin. If that is carried out, an appreciable lowering in the price of the principal product may be made possible.

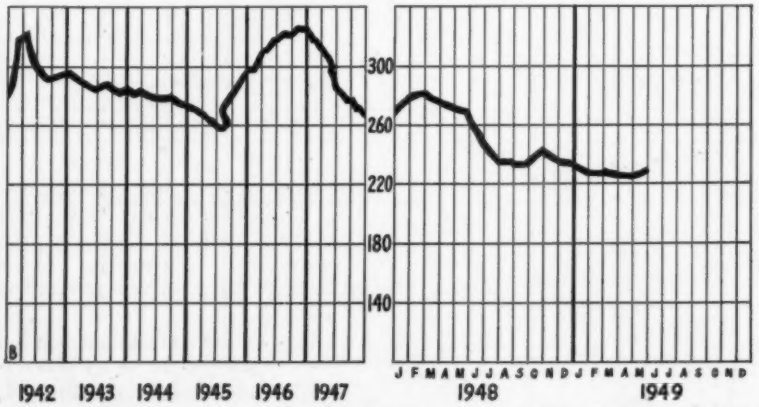
In 1935 Italy produced 70 percent of the world's needs of citric acid. That position has changed. In 1947 Sicilian natural citric acid was purchased by Australia, the Argentine, Brazil, Canada and the Middle East to a total of only 780 tons, and the existing industrial equipment in Italy could be utilized to only 30 percent of capacity. The demand has continued to diminish. The industry is thus in a perilous position. State subsidy for the purpose of permitting storage of unsold material is ruled out as a permanent measure, as the view is that sales will continue to fall.

**15 Medicinal Chemicals—Weighted Price Index. 1926 = 100.**




The medicinal chemicals index advanced from 137.9 to 139.5. Menthol was up sharply, mercury declined.

**15 Botanicals—Weighted Price Index. 1926=100.**




The botanicals index advanced fractionally from 226.4 to 226.8. Ergot and rhubarb were up, belladonna declined.

### Ethyl Ether Down

The USP ethyl ether for anesthesia purposes was reduced in price during the current trading period. One pound cans which had previously been quoted to hospitals at 89c a pound was reduced to 75c at this level. Hospital prices ranged upward accordingly for smaller sized cans on the new schedule. Half-pound cans were quoted at 83c per pound and ¼ pound cans at 90c. In shipment of 50 pounds or more prices were quoted 1c less than the above. In other distributive channels, prices were reduced accordingly. Prices quoted were f.o.b. works, with freight paid to destinations on shipments of 50 pounds or more.

Meanwhile, the industrial USP grade material used as a solvent in industry was firmly priced at 10c per pound in tankcars, 12c in drum carlots, and 13c in less than carlot quantities. Synthetic ethyl ether, also used as an industrial solvent was priced at 10c per pound in tankcars, 11½c in drum carlots, and 12½c in less than carlot drum quantities. The special absolute grade of ethyl ether conforming to ASC specifications was sold in drums at 30c per pound.

### Lanolin Unchanged

Lanolin was still severely short in supply, and there was not likely to be any significant easing of the critical supply situation until the fall months.

Demand continued in excess of supply with producers generally in a sold up position. Most price quotations stood at 30c per pound for the anhydrous cosmetic grade, 28c for the pharmaceutical material, and 25c for the hydrous lanolin.

### Mercury Down

Because of record imports, a persistant drop in demand, and surprisingly large arrivals from Japan, mercury is likely to remain at current low price levels over the balance of this year, according to a leading spokesman for the industry.

Barring unforeseen developments mercury prices will probably remain within a price range of between $80 to $95 per flask over the balance of the year, it was said.

During the war period, mercury reached a high price level of $212 per flask whereas quotations today, following a steady downward trend range from $81 to $85 per flask.

A surprising factor in the market is the metal arriving from Japan. Imports from that country are currently running at the rate of 4,000 flasks a year. Mercury producing countries of the past, in the order of their importance were Spain, Italy, United States, Austria, Mexico, Canada, and Peru.

Total imports of mercury in 1948 reached a record high level of 41,732 flasks, and on January 1, 1949, approximately 30,000 flasks were in the hands of dealers, producers and consumers.

Until such time as mercury requirements increase and stocks are correspondingly reduced, the market in the United States is likely to remain listless with price movements being confined within a narrow range.

The U. S. Government is partially secure in having on hand an amount approximately equal to the tonnage consumed during the war. However, it is strongly suggested that steps should be taken to have 400,000 flasks for any possible emergency. Additional quantities could be secured through the most advantageous economic source where the purchase will do the most good from an economic standpoint, said this spokesman.

The present price weakness in the market is not the result of European selling in the New York market, it was pointed out, since the price from that source of $70 per flask, f.o.b. Spanish or Italian ports is acting more or less as an umbrella over the New York market.

It is doubtful that any figures under $100 per flask would cause any material upturn in metal production in the United States as it must be borne in mind that the average price for the ten years preceding World War I was $91 per flask. Since that time labor, lumber and fuel costs have advanced sharply.

A factor that could have an effect upon the price of mercury would be a possible change in the tariff as the result of a study being made of metals that are subject to duties. There has been a tariff of 25c a pound on mercury since 1922. The tariff on salts of mercury is 25c a pound on the metal contained in the salts plus 25 percent ad-val rem

Domestic production of mercury is likely to remain at about 7,000 flasks this year. Mexican production is expected to amount to a similar quantity, it was said.

### Theophylline Down

The new lower price on theophylline is $6 per pound in 100 pound lots. This represents a $1.50 per pound reduction from former price schedules. Supplies were plentiful against moderate demand.

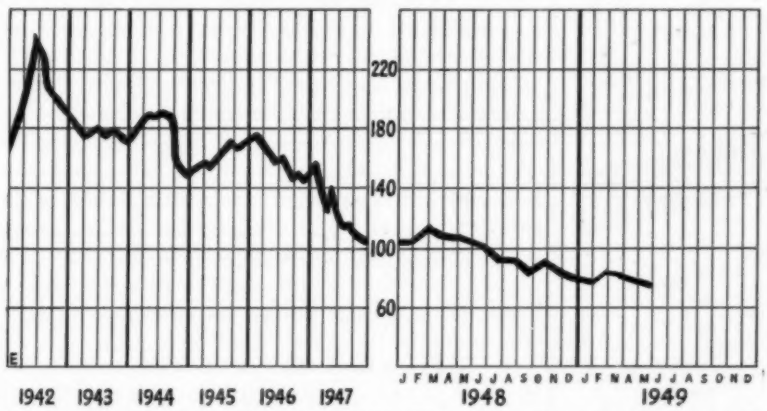
### Propyl Alcohol, Acetaldehyde Reduced; Maker Cuts Butyls

Celanese corp. of America announced lower prices on two of its products namely normal propyl alcohol and acetaldehyde. Change in the process of producing normal propyl alcohol which in turn will more than double its production has enabled the firm to pass along a savings in manufacturing costs. The new tankcar price for normal propyl alcohol is 6½c per pound, f.o.b. Bishop, Texas, or 8c a pound delivered. Its carlot price is now 8c delivered and 8½c in less than carload lots.

The firm's new tankcar price for acetaldehyde is 9½c per pound, freight equalized with Niagara Falls. Normal propyl alcohol goes into the manufacture of organic chemicals, intermediates, and as a solvent in waxes and resins.

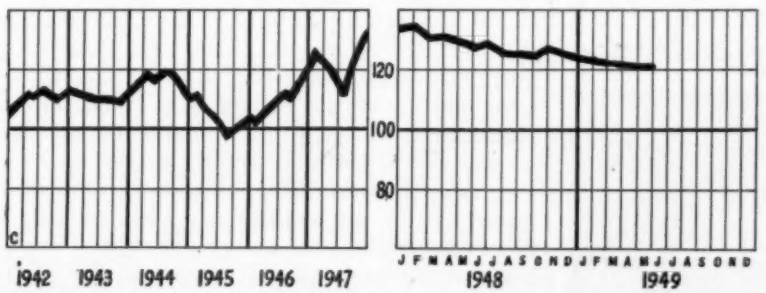
Prices on butyl alcohol and butyl acetate were lowered 1c per pound by a major producer thus establishing both items at 14c in tankcars, 15½c carlots, drums, and 16c in less than carlots.

**15 Essential Oils—Weighted Price Index. 1926 = 100.**




The essential oils index declined from 85.2 to 83.6. Anise, Cananga, and Peppermint were lower, Limes advanced.

**25 Cosmetic Raw Materials—Unweighted Price Index. 1926 = 100.**




The cosmetic raw materials index declined fractionally from 122.4 to 122.3. Candelilla Wax and zinc oxide were lower, menthol advanced.

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## Vitamin $B_{12}$

(*Continued from page 755*)

needed to fully assess the value of this substance in maintenance therapy for the pernicious anemia patient, either with or without associated neurological symptoms.

Vitamin $B_{12}$ also shows valuable potentialities for the treatment of macrocytic anemia. This is well indicated in the report by Spies, *Stone* and Aramburn[22] of two patients with nutritional macrocytic anemia. The response of these two cases shows that the new substance has positive activity in this disease. On a dosage of 6 micrograms of vitamin $B_{12}$, the red blood cell count of one patient rose from an initial reading 2.51 million to 3.19 million at the end of 14 days. During the same period, the second patient showed a rise from 2.02 million to 2.88 million red blood cells per cubic mm. In England, Patel[27] reported good hematological response to a single injection of 80 micrograms of the substance in two cases of tropical macrocytic anemia.

The treatment of tropical sprue is another indication for the use of vitamin $B_{12}$. This disease is characterized by such symptoms as macrocytic anemia, diarrhea associated with fatty stools, glossitis and weight loss. Two patients with this condition were treated by Spies and his associates.[28] They reported that each of the two cases of tropical spruce in relapse responded clinically and hematologically following a single injection of 8 micrograms of vitamin $B_{12}$. The new factor has similarly proved effective in the treatment of a case of nontropical sprue.[20]

The dosage of vitamin $B_{12}$ varies from patient to patient. On the basis of their rather wide experience, Spies and his colleagues[11] say that the average patient will perhaps respond maximally to 100 micrograms or less. Most patients seem to respond minimally to from 8 to 10 micrograms of the factor. They emphasize, however, that vitamin $B_{12}$ has no effect on the leukopenia of infections or the idiosyncrasies due to drugs, idiopathic purpura, secondary anemias, aplastic anemia or leukemia.

Various aspects of the relationship between vitamin $B_{12}$ and pernicious anemia and related conditions are being investigated. For example, there is evidence that vitamin $B_{12}$ is closely associated or identical with the food (extrinsic) factor. This is indicated in the observations by Berk, Castle and their coworkers[29] on the etiological relationship of a chylia gastrica (diminished or abolished gastric juice secretion) to pernicious anemia. Their findings indicate that the hematopoietic activity in pernicious anemia of orally administered vitamin $B_{12}$ is potentiated by the simultaneous administration of normal gastric juice. However, as is the case with liver extracts, this blood building activity is not so great as when the vitamin is given parenterally. Their observations, therefore, suggest that the food (extrinsic) factor may be identical with vitamin $B_{12}$. The findings also suggest that the gastric (intrinsic) f. tor is necessary for the optimal

utilization of the minute amounts of vitamin $B_{12}$ present in various foods.

Continued studies of vitamin $B_{12}$ are helping to answer other scientific questions. For example, during the past decade, the studies of many workers have established the existence of an unidentified substance, called the animal protein factor or APF, which is necessary for the growth and reproduction of chickens, rats and mice. It has now been established[30,31] that vitamin $B_{12}$ is capable of supplying the APF requirements of these species. It is felt that the vitamin is either identical with or closely related to the animal protein factor.

Of interest in this connection is a paper presented by L. D. Wright at the September, 1948 meeting of the American Chemical Society. Describing a new and highly sensitive method for detecting vitamin $B_{12}$, he remarked that the animal protein factor, or vitamin $B_{12}$, in trace amounts is spectacularly effective in the treatment of pernicious anemia. This disease now appears to be a condition whereby the body is unable to handle the vitamin in a normal manner even though the diet may be entirely adequate. The occurrence of an APF deficiency in humans, if it exists at all, has not been uncovered.

Also important, especially with respect to new sources of vitamin $B_{12}$, is the report by Stokstad and his coworkers.[32] They announced the isolation of a crude material having a high APF activity as measured by assays on chicks. The substance was found to be synthesized by a non-motile, rod-shaped organism isolated from hen feces. When tested on patients with pernicious anemia, the substance was found to stimulate a favorable hematopoietic response.

Much more work must be done to evaluate vitamin $B_{12}$ and to determine its mode of action. From the many data already available it is quite evident that it will have an important place both in therapy and nutrition.

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## Air Diffusion in Atmospheric Control

(*Continued from page 691*)

right at the air-duct openings.

Finding and correcting such conditions is important where rate of crystallization is accurately controlled. In plants where coatings are placed on medicinal tablets, on candy and on gum, size of sugar crystals and appearance of the coating are influenced by cooling rate of a saturated sugar solution. The proper amount applied at the correct dry and wet temperatures, governs how fast cooling and rate of evaporation take place.

A case of trouble developed recently in a large midwestern plant where the process required a room temperature of 50°F. or lower. Employees complained not about working at a temperature of 50°, but rather because the blasts of cold air from the air conditioning outlets were too severe. When conventional grilles in this plant were replaced with scientifically designed air diffusers, the unsatisfactory conditions were immediately eliminated.

In another case of trouble, the air conditioning system in a large manufacturing plant failed to maintain the temperature and humidity required for the manufacturing process. A study showed that the trouble was entirely due to the air being improperly distributed after leaving the ducts. When efficient air diffusers were used to replace existing grilles, temperature and humidity were closely maintained throughout the room. And even after air changes were substantially increased for more efficient operating conditions, all drafts were eliminated.

Difficulties in the two plants mentioned were overcome by installing "aspirating" air diffusers. This type unit is composed of a series of scientifically-designed metal cones assembled in definite relationship to each other. Air entering a room passes through these cones and, because of their unique design, is instantly reduced in velocity within the device. Simultaneously, air from the room—equal to about 35 per cent of the incoming air—is siphoned into the diffuser where it is mixed with the incoming air. The pre-mixed air then leaves the diffuser at a low velocity and spreads over a pre-determined area well above the working level, and then finally reaches the occupancy zone as a slow-moving low pressure blanket.

Because the primary air mixing action takes place within this diffuser, and because all major air turbulence is limited to its immediate vicinity, no drafts are perceptible to occupants of the room. It might be said that the air-mixture settles into the room instead of sweeping in, as it does when conventional fixtures are used at the duct openings. Therefore, obstacles such as columns, machines and furnishings do not affect or deflect air flow. And stagnant air pockets—whether undercooled or overcooled—are eliminated as a result of the thorough distribution of air in every part of the room. The overall result is even, draftless air distribution that causes both temperature and humidity to be closely equalized throughout the room.

There are many factors involved in the design of a proper system for air distribution. Because of this, one single type of "aspirating" diffuser could not be expected to solve all air distribution problems. Therefore, different designs are used for different conditions. For example, 180 of these diffusers are used in a large laboratory in New York. Because conditions differ throughout the building, 72 of the devices are wall-type and 108 are ceiling type. In some parts of the building duct velocities exceed 1500 feet per minute, yet velocities at occupancy levels are below 40 rpm—an air motion of less than one-half mile per hour.

Since these air diffusers circulate air of the highest duct velocities in a draftless pattern, they make it possible to install smaller ducts to handle larger volumes of air than is customary. Duct layouts also may be simplified because these efficient air diffusers—properly selected and located—thoroughly distribute the air in spite of machines, columns, and other obstacles. Small ducts and simplified layouts enable the contractor to save valuable space and reduce installation costs.

In precision manufacturing, air conditioning insures constant controlled production by limiting variations in the dimensions of tools, gages and materials, and prevents spoilage and rejects. A steadily growing field is the application of air conditioning to laboratories and for testing purposes. Of special interest are altitude chambers, low temperature, high temperature and similar test rooms where it is possible to simulate atmospheric conditions for testing of equipment, instruments and personnel. Biological laboratories for the study of the effects of environment and food on plants and animals have been air conditioned to further the research of the ecologist and the environmental physiologist.

Air distribution does not end at a duct opening. Actually, this is where scientific air diffusion begins—the way it is done can make or break any air conditioning system. And in many applications where chemicals are involved, through use of "aspirating" diffusers, faulty existing air conditioning systems have been made entirely successful. Countless new installations have specified this type of outlet for air distribution—where this has been the case optimum temperature and humidity levels are maintained uniformly throughout the enclosure—not only that, no costly changes will be required in the future.

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## Antacids

(*Continued from page 747*)

the free state and as the hydrochloride salt of the proteins undergoing digestion, and it is believed today that only the free hydrochloric acid need be neutralized to obtain relief from gastric hyperacidity. Thus Michaelis[35a] considers all the free acid neutralized when the stomach contents reach a pH of 3.

Homer and Martin consider a pH of 4, Kirsner and Palmer[36] believe a pH of from 4 to 5, Breuhaus and

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Eyerley[7] think a pH of 3.5 and Rosset and Flexner[42] consider a pH of from 3.5 to 5 as probably sufficient to neutralize the gastric acidity. Thus in view of these authoritative opinions it is today believed that the ideal antacid should produce a pH of from 3 to 5 in the gastric contents, even when taken in overdoses; and at no time should the pH rise above 7.

(There are methods available for determining the pH in the stomach produced by various antacids and these will be discussed below). With this property in mind the various commonly used antacid materials were evaluated with respect to the pH they would produce in the stomach if used in excessive amounts and the results are shown in Table IV.

**TABLE IV**
**pH Produced In Vitro By Excessive Doses of Antacid Material***

| *Antacid* | *pH* |
|---|---|
| Sodium bicarbonate | 7.75 |
| Magnesium carbonate | 7.65 |
| Calcium carbonate | 6.25 |
| Magnesium trisilicate | 6.15 |
| Aluminum hydroxide | 3.45 |
| Magnesium oxide | 9.55 |
| Aluminum dihydroxy-aminoacetate | 3.50 |

*This experiment was performed by reacting 100cc. of tenth normal hydrochloric acid with 2.00 grams of the antacid material at 37.5°C., mixing with an electric stirrer and measuring the pH with a Beckman model G pH meter ([23]).

The results shown in Table IV indicate that sodium bicarbonate, magnesium carbonate and magnesium oxide cause the stomach pH to rise above pH 7 if used in excessive dosage and therefore may give rise to acid rebound.[15,31,33,34,43]

Of course this does not preclude the use of these materials in antacid preparations provided they are dispensed in dosages small enough not to raise the pH of the gastric contents above 5. This is very difficult to do since the amount of acid secreted by each person varies greatly and what may be a suitable dose for one individual may be an overdose for another. On the other hand any of the other antacid materials shown in Table IV can be dispensed in huge overdoses and one need have no fear of ever causing overneutralization or acid rebound.

### f. Non-eructating

Gastroenterologists are of the opinion that antacids which produce gaseous matter on reacting with excess acid in the stomach are to be avoided.[15,16,29,30,37] It is believed that the gases formed may cause intragastric tension which may intensify the pain and discomfort and that some carbon dioxide formed will be absorbed as bicarbonate ion.

Many of the antacid materials in use today are carbonate and bicarbonate salts and these chemicals, on reacting with the hydrochloric acid of the stomach will produce carbon dioxide gas. It would therefore appear that in choosing the ideal antacid, one would eliminate all those materials tending to form gas.

Table V lists the common antacid ingredients with

an evaluation of their gas forming properties. From this table it can be seen that sodium bicarbonate, magnesium carbonate and calcium carbonate cannot be classified as ideal antacid materials because they do liberate carbon dioxide on reacting with the gastric acids. It is only fair to state however, that calcium and magnesium carbonate have been used as antacid materials for many years with satisfactory results, and it is very probable that the production of carbon dioxide gas is only undesirable in persons suffering from gastric or duodenal ulcer or those suffering from extreme flatulence. Another viewpoint is that the insoluble carbonates are safe since they liverate gas slowly and hence only the carbonates and bicarbonates which are soluble in the body fluids and liberate carbon dioxide very rapidly are the real offenders.

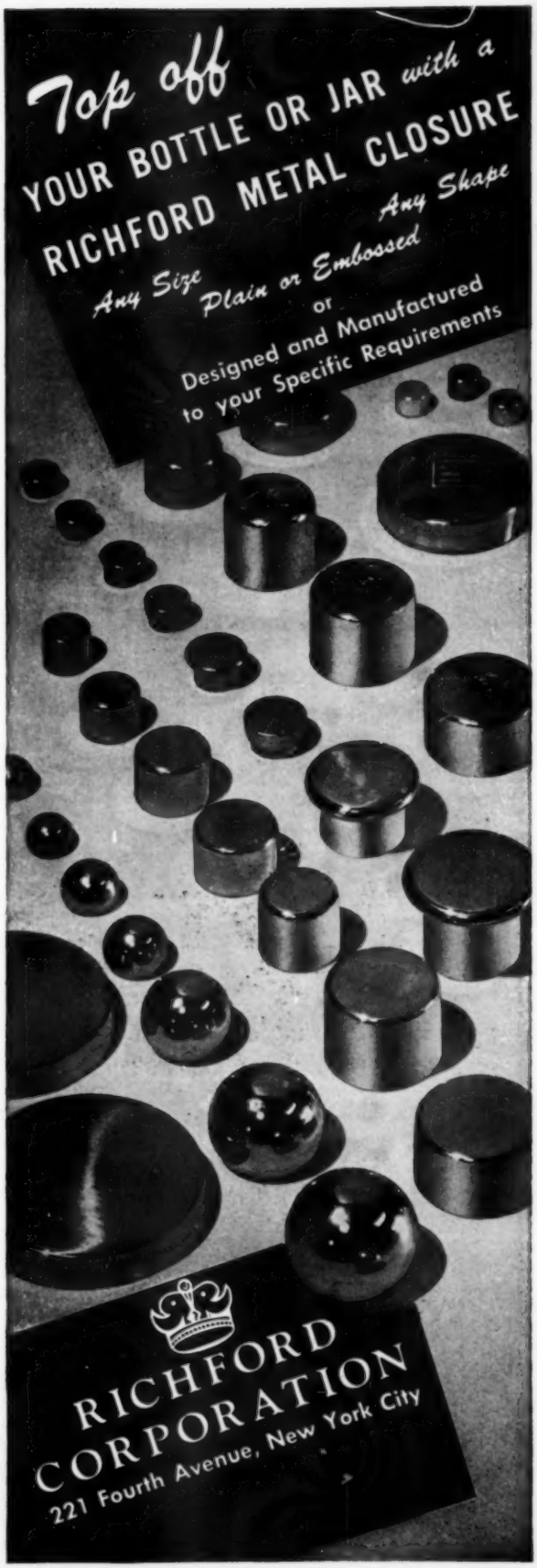
**TABLE V**
**Gas Produced By Antacids**

| *Antacid* | *Volume of Gas Formed** |
|---|---|
| Sodium bicarbonate | 303 Cubic Centimeters |
| Magnesium carbonate | 303 Cubic Centimeters |
| Calcium carbonate | 255 Cubic Centimeters |
| Magnesium trisilicate | None |
| Aluminum hydroxide | None |
| Magnesium oxide | None |
| Aluminum dihydroxyaminoacetate | None |
| Synthetic resins | None |

*The volume of carbon dioxide formed in cubic centimeters by reacting 1.0 grams of the antacid material with excess dilute hydrochloric acid at 37.5°C. and 760 mm. pressure.

To summarize then, the ideal antacid preparation will have no effect on the bowels, will not produce a large volume of carbon dioxide and will act quickly to neutralize the excess gastric acidity, producing a pH of from 3 to 5 in the stomach. The antacid will have a high neutralization value and will be insoluble in the body fluids so that a small quantity will give prolonged results at no time raising the pH of the stomach above 7. It goes without saying of course that the preparation must be palatable, non-toxic and economical to use. Some of these properties are summarized on the graph shown in figure I. As yet, in the authors opinion, there is no one really ideal antacid material. Each chemical used has certain advantages in antacid therapy but unfortunately it is usually accompanied by certain undesirable characteristics. Therefore, today, in order to formulate a nearly ideal antacid one must resort to the use of balanced mixture of chemicals. In this way one takes advantage of the desirable properties of each chemical and minimizes the undesirable characteristics.

Thus, sodium bicarbonate alone may cause alkalosis and acid rebound, magnesium oxide and magnesium carbonate alone may cause acid rebound and diarrhea, but there is nothing wrong in taking advantage of the rapidity of action of these chemicals and using them in small safe doses to cause an initial rapid drop in stomach acidity. The literature is replete with examples of how mixtures of antacid materials give better results than any one single chemical. For example: Kirsner[27] finds a



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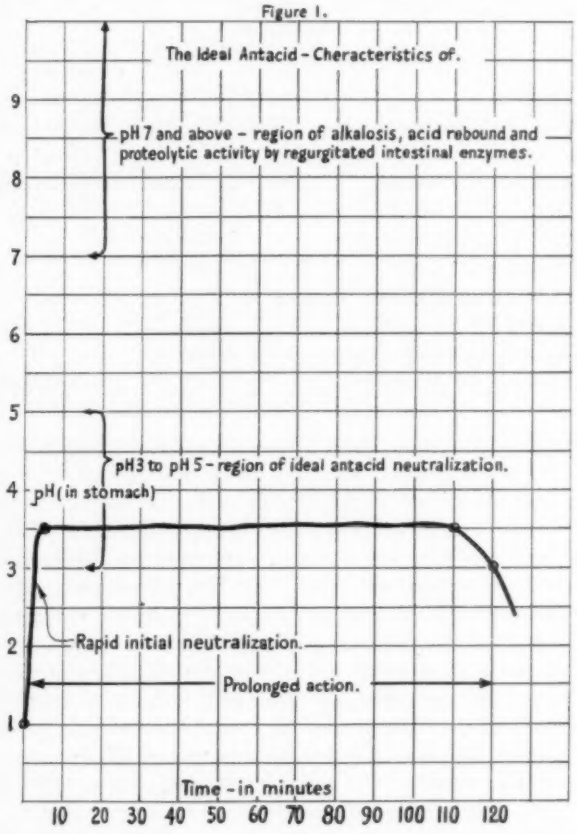
mixture of calcium and magnesium carbonates gives good results; Batterman and Ehrenfeld[48], report that a tablet composed of aluminum hydroxide and magnesium trisilicate gives excellent results in peptic ulcer patients; Wosika[52] shows that a mixture of calcium carbonate and skimmed milk is excellent and Rosset and Flexner[43] report that a mixture of magnesium hydroxide and aluminum hydroxide is more efficient than aluminum hydroxide alone.

Knowing what criteria are to be met in the formulation of an ideal antacid, the formulator now faces two questions; how much hydrochloric acid should the antacid preparation neutralize and given an antacid preparation is there a method for evaluating its efficiency?

Figure 1.




The question of how much gastric acidity to neutralize is not simply answered. As was pointed out above each person secretes different amounts of hydrochloric acid and even the same individual may secrete different amounts under varying conditions. However, Rosset and Flexner[42] have shown that 30 cubic centimeters of tenth normal hydrochloric acid represents the amount of acid in the fasting stomach of the average person suffering from hyperchlorhydria. Also Bloomfield[6] has shown that, on the average, a person suffering from ulcers secretes the equivalent of about 20 to 30 cc. of tenth normal hydrochloric acid every ten minutes. Thus assuming that the antacid preparation is taken a half hour after meals the stomach may contain the

equivalent of from 90 to 120 cc. of tenth normal hydrochloric acid, and in order to round this value out we will assume the presence of 100 cc. of tenth normal acid. Of course as much as 50 per cent of this value may be in the combined form as hydrochloride salts of protienaceous matter. Therefore to simplify the problem the antacid preparation should neutralize 50 cc. of free tenth normal hydrochloric acid fairly rapidly and should be able to neutralize an additional 240 cc. (at the rate of 20 cc. per ten minutes), for the two hour period that it remains in the stomach; or the total amount of acid to be neutralized is the equivalent of 290 cc. of tenth normal hydrochloric acid. The amount of the various chemicals to be used can easily be calculated from the neutralization values as shown in Table III, after deciding how much acid each chemical is to neutralize.

Thus, if one decides to use a mixture of magnesium carbonate and aluminum hydroxide—0.23 grams of magnesium carbonate will rapidly neutralize the initial 50 cc. of tenth normal acid present in the stomach and 0.90 grams of aluminum hydroxide will take care of the remaining 240 cc. which will be secreted over a two hour period. Of course this weight of chemical may conveniently be compounded into one or more tablets as desired, or may be dispensed in the form of capsules or as a powder after dilution with an inert filler.

Now assuming the antacid has been formulated, how can its efficiency be determined?

Up to a decade or so ago, the use of a stomach tube (Rehfuss tube) was standard clinical procedure for measuring the efficiency of an antacid. The patient would be fed a standard test meal, then an antacid preparation and then at definite intervals of time the contents of the stomach were removed by means of a Rehfuss tube and analyzed for acidity. Recently a group of gastroenterologists[11,12,13,13a] demonstrated that acidity of the stomach(and thus the effect of antacid preparations) could be measured by directly inserting a glass electrode into the stomach and recording the pH continuously. It has also been shown that the effects of an antacid can be measured in vitro and a definite correlation can be obtained as to how it will act in the human stomach.[14,42] Thus Flexner and Kniazuk measured the effect of an antacid in vivo by recording the change in pH in the stomach, using a glass electrode and a recording pH meter; then using the same antacid in an in vitro experiment they obtained almost identical results. Rossett and Flexner in using this in vitro method conclude that it is an easy and satisfactory method of obtaining information regarding antacid properties of various substances. The method used by the author in evaluating antacid preparations is based on the work of Rossett, Flexner, and Kniazuk and is a modification of the procedure recommended by Johnson and Duncan[23] and Holbert et al.[22] A beaker containing 50 cubic centimeters of tenth normal hydrochloric acid is placed in a water bath maintained at a temperature of 37.5°C. The electrodes of a pH meter are placed in the solution and one dose of the antacid


# For Lovely Skin, Cleansing Twice Daily Is Required

By MARY CARROLL

There's no better time than the start of the year to check up on how we treat our skins every day. Checking up reminds us of how often we put off doing what we know is essential.

A New Year's beauty resolution is as beneficial as any, because it will point up where we have been lax.

We don't make resolutions about things we are good at, but for those we slip up on.

In the morning the skin must be prepared for makeup with another cleansing if you will avoid many skin troubles.

Cleansing with a cream is the best method of getting at the impurities embedded in the skin.

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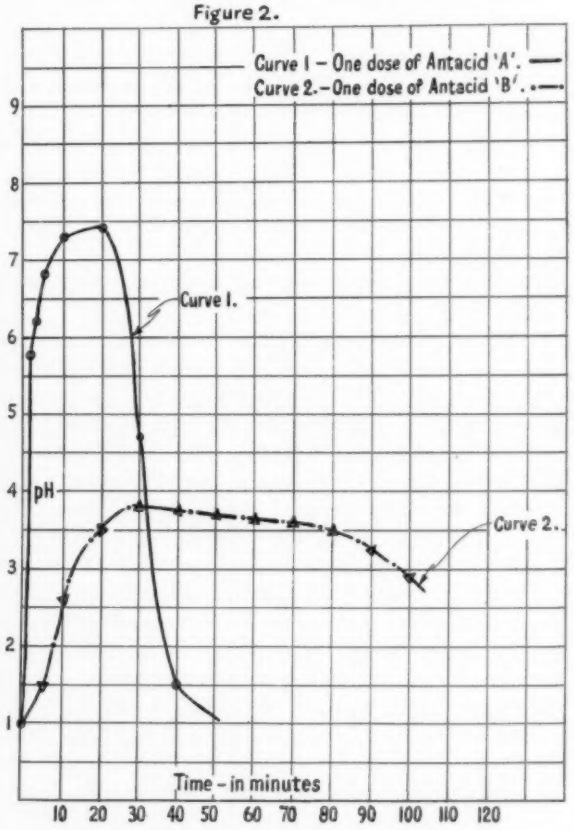
preparation in powdered form is added to the beaker. The mixture is stirred continuously by means of an electric stirrer and the pH is recorded at the end of the first, third, fifth and tenth minutes. At the end of each ten minute interval the pH is again recorded and 2 cc. of normal hydrochloric acid is added. (This is equivalent to 20 cc. of tenth normal acid which is secreted by the hyperchlorhydric stomach). This procedure is followed for two hours or until the pH drops below 3, at which point the antacid is assumed to be dissipated.

This method of evaluation permits the determination of the acid consuming power, the rate of neutralization, and the length of activity of the antacid in question and also shows the pH produced in the stomach. To illustrate, Figure 2 shows several curves obtained by the author using the above method of evaluation, on two of the many commercially available antacid preparations.

Figure 2.




An examination of the two curves shown in figure 2 leads to the following conclusions:

Antacid "A" reacts immediately with the excess acid in the stomach and within one minute has almost neutralized the acidity completely. However, the pH continues to rise and in about ten minutes has reached a value of 7.3, indicating that this particular antacid will probably alkalize the stomach. This, of course, is undesirable for the reasons outlined above.

It is also apparent that the active "life" of this antacid is relatively short, one dose lasting for approximately forty minutes, since at the end of this time the pH has fallen below the accepted neutralization value of pH 3.

From the length of activity and the conditions of the experiment, one can readily see that this antacid preparation will neutralize 70 cc. of tenth normal hydrochloric acid.

On the other hand, preparation "B" does not react so quickly to neutralize gastric acidity, but does not alkalize the stomach; rather keeping the stomach at the accepted pH of 3 to 4 for its entire length of activity. Preparation "B" also has a more prolonged action and larger acid combining value and will keep the hyperacidic stomach neutral for approximately one hour and forty minutes.

By the use of this method of testing and by taking advantage of the desirable characteristics of the various antacid chemicals it is possible to formulate a variety of almost ideal antacid preparations.

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## T.G.A. Meeting 1949

*(Continued from page 684)*

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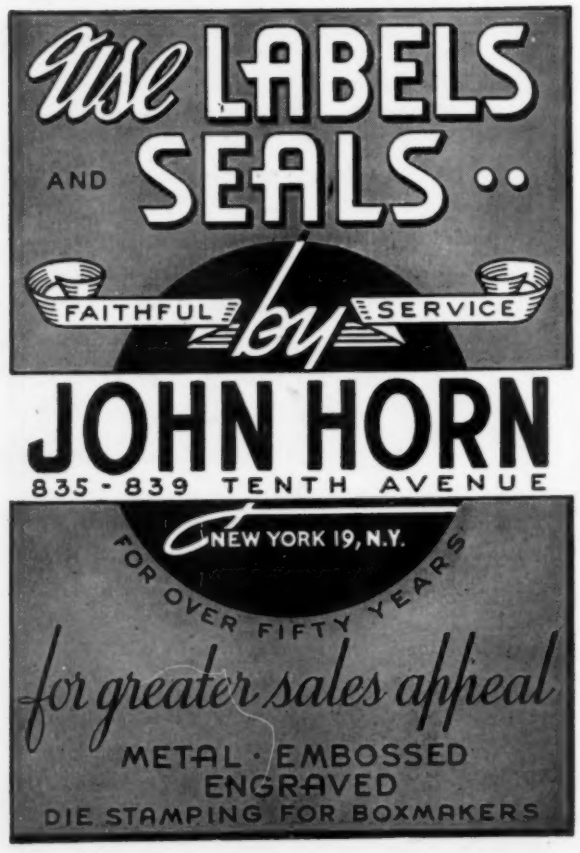


displays, advertising once or twice a month, furnishing a reasonable number of window displays, and mentioning Arden cosmetics in fashion shows.'

"6. Your formula should require a corresponding acceptance by your customer. There seems to be a profound feeling among retailers that this Robinson-Patman legislation is a problem for the cosmetic industry alone, and that their customers do not have to worry about it. This is an utterly mistaken notion because I think subsequent events will prove that any concerns which get too much discount or too many privileges as retailers, are as likely to be the subject of prosecution under the Robinson-Patman Act as the manufacturer himself. I often have the feeling that department store executives are unduly cheerful about the dilemma that faces this industry. They and your other customers feel and act as if they were above the battle, that under no circumstances can you do anything to alienate such old friends as they are. Friendship is a beautiful thing but whether they like it or not, they have the same stake in the situation which you have and the more they cooperate with you, the better it will be for you and for them. Some of your distributors may have a rude shock when they find that circumstances beyond your control compel you to greatly modify your present terms and system of distribution. Suppose the retailer rejects all the plans you offer him—have you a duty toward him then? I think not

"7. Be prepared if the rules are too difficult, to eliminate a number of your small customers. This to me will not be a surprising result at all, because having followed the legislation for many years, designed to help the small retailer, I find that much of it has boomeranged and the more statutes of this kind that are passed, the more retailers are eliminated. All the pitious pleas of Congressman Patman and his Small Business Committee cannot avert this result as long as this legislation is not in harmony with the economics of industry but is often in violation of it. Every congressman and senator says he is working for the small business man which includes the small retailer, but all the time we see how much more difficult it is for either the small manufacturer or the small retailer to survive in spite of this restrictive legislation."

"There isn't the slightest question that this industry will reach a billion dollars a year in sales," said Frazer V. Sinclair, publisher of DRUG AND COSMETIC INDUSTRY and BEAUTY FASHION. "This annual volume will be reached if the industry does nothing further about it in the way of research, planning or coordinated effort than it has in the past. We could set the year and say that in 1958, barring a short-time cyclical change, consumers will spend one billion dollars for perfumes, cosmetics and toilet preparations.

"This confident prophesy is based upon the plain fact that the pattern of cosmetic sales has been a rising line which has almost paralleled the line of disposable consumer income. These two lines have been rising, over a period of years, almost like the

two lanes in a two-lane highway. We know that disposable consumer income is in an historic upward trend in this country because of our constant growth in population, our dynamic research and industrial development and our political ideals. We can accept the historical fact that cosmetics will at least hold their own in this national growth."

Stating that the per capita use of cosmetics by all women between the ages of 15 and 60 is barely over $12, Mr. Sinclair said, "these figures force us to admit, that for all our running, we have simply kept up with the procession. It seems strange to me that this industry, which takes so much pride in its vigor and imagination, could be satisfied with this meager average; or that members of this industry could avoid wondering whether some of their traditional ways of conducting their business, whether some lack of industry consciousness, has limited a much fuller use of cosmetic products in this country.

"I think there is reason for wonder, and that there is reason for dissatisfaction. We know that there must be money, that is income, with which to buy cosmetics. But we know also that the great underlying forces stumulating the greater use of perfumes and cosmetics are the increase in the general level of living standards and, even more, an ever-increasing social intercourse.

"This industry can supinely accept its historic quota of the costumer's dollar with very little fear that this basic quota of the consumer's dollar will be eroded. The energy and the promotions of individual members will, as in the past, be its defensive bulwark. But in this new era, and new markets, many other industries are finding that there are things to be done which only the industry, not individual members, can do. It has always seemed to me that the best hope for this industry to secure a larger share of disposable income could be found in a study of possible industry action, rather in the brilliant performance of individual members. At least, in the past, individual members do not seem to have been able to advance the industry's quota beyond its fixed relationship."

Mr. Sinclair discussed methods of increasing the share of the consumer's dollar which included research, a study to find where the customers really are under present economic conditions, a close study of foreign markets, the recognition whether or not the various products of the industry are luxuries—and declaring those which are luxuries essential to the "high standard of living which this country has made a political ideal," a new study of distribution with reference to which of the available 200,000 retailers should be used for various types of products.

## Odor and Olfaction

(*Continued from page 695*)

Measurement of odor has depended entirely on the physiological processes of perception. Work on this phase has been confined largely to perfection of devices and methods whereby odorous material can be intro-


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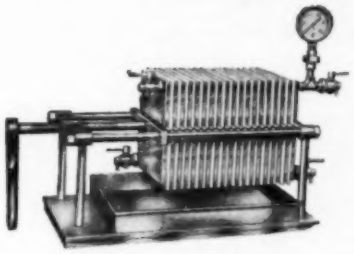

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duced into the nose in known amount or concentration, and the perceptibility recorded. Zwaardemaker[10] established olfactometry on a firm basis, and refinements of his methods have since been made. But no instrument has yet been devised which will detect, classify or measure odor without use of a living olfactory system. We cannot measure odor in a way at all comparable to the measurement of color by the spectrophotometer, or of sound by the decibel meter. Until such an instrument is found, odor measurement must depend on physiological devices.

### Physiology of Olfaction

The anatomy of the olfactory system is fairly well known, but not its physiology. We know that the olfactory epithelium covers one square inch of the ceiling of the nasal cavity, and that eddy currents reach this area in the course of ordinary breathing, but that sniffing carries more air there, so enhances odor detection. The olfactory cells are covered with a film of mucus, and are equipped with fine hairs on the exposed ends. At the inner end, the threadlike axons of these same cells travel directly to the brain. This is important, for there is no other kind of cell which connects the brain directly to the outside of the body. All our sensations reach the brain only through one or more sets of synapses. The axons are gathered into some twenty separate fibers which all together form the "olfactory nerve." The fibers lack the insulating sheath or medulla that many other nerve fibers have, so induction among the fibers may prevent the sensation of "pure" odor. Crocker and Henderson have postulated that the four modalities of odor forming the basis of their classification system may correspond to four different types of olfactory cells, just as the four tastes are assumed to correspond to four types of taste cells. Can the inductive effect among fibers account for the fact that no odorous substance is classified exclusively in one modality, and most substances have components of all four modalities?

We do not know how the odorant stimulates the olfactory cells. Since water and lipoid solubility are somewhat parallel to odor production, we are encouraged to believe that the odorant must dissolve in the mucus, and be either dissolved in or adsorbed on,

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the lipoid material of the cell surface, in order to produce its effect. But once it gets there, how does it generate the nerve current? Austerweil attributes the effect to a change in the interfacial tension between the cilia of the cells and the fluid in which they are immersed. Does the odorant form a monomolecular layer at the boundary between mucus and cilia?

Whether there is adsorption at the cell surface or not, energy must be released or absorbed inside the cell in order to generate the nerve current. The odorant may or may not supply the energy; it may act as a trigger to permit release of energy from the cell's own system. Here again, we await the extension of basic scientific background; no one knows just how nerve currents are generated in any nerve. Acetylcholine has been advocated by Nachmansohn[28] and others as an important effector of nerve currents, but many other physiologists discount its role.

It is known that cell walls are polarized, due to the steady flow of electrolytes across the walls. The interior of the cell is generally 50 to 100 millivolts negative by comparison with the exterior. Decrease of permeability at any point on the cell membrane can initiate a flow of current which, in nerve cells, can constitute the nerve impulse.[11]

"Since all nerve messages in individual fibers are alike except for differences in timing and voltage, patterns of organization of messages in the brain must be the ultimate basis for the rich quality of our experience, including ideas themselves." A. V. Hill[12] considers that nerve cells function as relaxation oscillators that may fire repetitively in response to voltages built up across the cell's membranes by cellular oxidation.

Lorente de No has demonstrated[13] that reverberating chains of neurones arranged in closed loops can form systems in which excitation of any neurone causes excitation of the whole loop in a continuing manner. In the ten billion neurones in the human central nervous system, we have the basis for storage of memories in such a way that a stimulus associated with the memory will recall the whole complex. Lashley found, by experiments on rats, that memory traces occupy very extensive cortical areas, and believes that signals received may reverberate extensively, affecting patterns of action in innumerable rythmically acting local circuits. Hoagland suggests that memory traces may involve a semi-permanent change in the nerve cells and dendrites, on the molecular level, similar to that involved in storage of sound by molecular rearrangement in a wire recorder.

Erb[14] believes that the odorant, after entering the olfactory nerve tissue, is oxidized or reduced by one of the enzyme systems present, and that odor varies with the speed and concentration of the electronic activity of an oxidation-reduction reaction of the odoriphore. It is almost certain that one or more of the thousands of kinds of enzyme present in the cells partake in the process, but the oxidative nature is so far only hypothesis.

Fatigue is generally considered due to adaptation to the environment, but rate of fatigue varies. Is the rapid production of fatigue by hydrogen sulfide connected with the well-known poisoning effect of this substance upon enzymes of the metal-complex type?

The recent work of Rothen[15] on antigen-antibody action through an intervening film may have bearing here; for if it can be confirmed that such a reaction, generally considered a chemical one, can take place at a distance of 200 or more Angstrom units, it is not difficult to visualize how odorants may affect the sensory cells in a manner previously considered impossible. Such work may form the bridge between the chemical and the physical or vibrational theories of olfaction. Pressler[16] has reviewed the latter, and has supported Beck and Miles[6] in their latest version of the infrared vibration theory which goes back to Ogle's[4] views first expressed in 1870. The evidence adduced by Beck and Miles is weighty, but needs some clinching experiment such as Pressler has suggested, wherein the odorant would be introduced into a tube, transparent to infrared, inside the human nose. It should be possible to perform this experiment without deadening the olfactory nerve, for the sneeze reflex which, as he states, must be eliminated, does not involve the olfactory nerve.

Dyson[5] suggests that odor is the resultant of vibrations of several frequencies. Thus in phenylmustard oils the "pungent" and "anise" aspects are probably due to separate frequencies, and meta substitution contributes to pungency, para to the anise note. This idea ties in with Crocker & Henderson's postulate that the four basic odor-types of their system correspond to stimulation of four kinds of sensory cells. Each type of cell would be responsive to vibrations of a given frequency.

Our conception of olfaction probably reflects too strongly our knowledge of vision and audition. In vision, spatial arrangement is an important factor, but in olfaction any spatial arrangement of odorants simultaneously smelled would be destroyed by the eddy currents of inspired air; odor is comparable only to the color component of vision, without shape or position. In audition, time is a factor, and the same note played on various instruments give different effects, not only because of overtones, but because of different shapes of the time-amplitude curve; odor is analogous to pure tone in sound, for time is unimportant; odorants smell the same whether sniffed briefly or smelled at length, aside from fatigue effects. The production of sound, which generally occurs by mechanical excitation of an object capable of vibration with an audible frequency, furnishes little basis for the understanding of olfaction. Color production, however, offers tempting analogies. Color is most commonly produced, in our experience, when white light is selectively absorbed or scattered, so that the parts reflected or transmitted reach the retina as colored light. The infrared theory of Beck and Miles would be generally comparable to this type of color production,

with the radiation originating in the cells of the olfactory mucosa, and being selectively reflected by the odorant, back to the sensory cells.

It should be mentioned that an early theory of light postulated radiation from the eye being reflected back by objects as vision.

A delayed form of color production is exhibited by the phosphors, which can be energized by visible light, X-rays, electrons or ions to an excited state; from this state the return to normal involves generation of visible light, and this generation may last for periods as long as several years. The qualitative theory of phosphors has recently been worked out.[17] although no adequate quantitative theory is as yet available. Phosphors produce light by the transition of outer or valence electrons to and from high-energy levels, and these electrons are sensitive to the kind, spacing and arrangement of neighboring atoms. Analogy may give us a useful concept of odor production; the electrons involved in forming the odor of a given odorant would be energized, and store their energy until they are assisted in releasing it by the mechanism of the olfactory cells.

Phosphors exhibit another peculiarity with its counterpart in odorants. Traces of impurities hasten or retard tremendously the light production by phosphors. Among odorants, traces of impurities have been reported repeatedly to affect the odor to an extent out of all proportion to their amount. Ungerer & Stoddard,[18] Mueller[19] and Frascati[20] have all written on this phenomenon, and their observations have been difficult to explain; possibly phosphors will help explain these "paragenoses" and eventually increase our understanding of the entire odor problem.

Whatever the method by which nerve impulses are created, they are of the all-or-none variety. When a certain level of stimulation is exceeded, an impulse is released, and odor intensity is registered, not as a difference in the strength of each impulse but as a difference in spacing of impulses. Our sense of smell is feeble, compared with other senses, in its ability to detect differences in intensity. The Weber fraction, or smallest detectable change in intensity, is generally given as 0.01 for vision, 0.025 for weight, 0.05 for pressure on skin, 0.10 for hearing but 0.30 for smell. However, careful measurements by Wenzel[21] indicate that 0.15 is a better average value for smell. The Fechner-Weber relation holds true for odor, as for other sensations, so that sensation is proportional to the logarithm of the stimulus.

The olfactory pathways beyond the olfactory bulb form an almost complete ring around the corpus callosum to center in the hippocampus. There is no known direct connection to the thalamus, such as all other sensory systems possess. However, indirect connections do exist.

## Psychology of Olfaction

The psychology of olfaction is at once the least understood aspect and the most promising one in its application to selling problems. If we could only fathom the reasons why some odors are attractive, others repulsive, what a powerful selling adjunct we should have! For the sense of smell is one of the most primitive, stemming from the chemical sensitivity of the one-celled animals, reaching full development in the fishes and gradually declining in importance to every day living as we ascend the scale to man. Smell is the prime means of assuring the lower animals the food supply, contact with mates, and escape from danger, which are the basis of their survival. Psychologists studying animal behavior believe more than half the impressions of conscious life proceed from the olfactory sense.[22]

Some odors are probably disliked by all normal humans, whereas colors and sound tones are not of themsevles pleasant or unpleasant. Sights and sounds seem to be unpleasant if they are unharmonious or unusual in such a way as to clash with the expected and to warn of danger or disaster. Personal reaction to an odor is no doubt influenced by memories of experiences of which a similar odor was a part, but odors *generally* liked or disliked seem to have some more remote reason for their effect. Possibly our reaction to odors has its roots in early experiences of the human race, or even in that of man's ancestors. The differences in odor preference between man and the animals, and among races and groups of men, would indicate that personal experience does have a strong effect on odor preference.

Redgrove[23] believes olfaction plays an important, though unrecognized, part in sexual selection in civilized races. Floral odors remind one of the subtle smell of clean human skin, a thousand times intensified. All the perfumers' creations may appeal to us as intensifications of those natural odors which determine sexual selections.

Moncrieff[1] observes how the rank offensive odors are often very closely related to the delicious. Pyridine (rank, unpleasant), gamma-propyl-pyridine (violet odor) and alpha-propyl-pyridine (stupefying) are close chemical relatives. Does this have any analogy to the thrill that comes from close contact with danger?

Snyder[24] remarks that human beings are most similar in those characters they share with the greatest variety of other animals, and differ from each other more and more as they get farther from these basic deep-seated traits. Can we deduce that humans will be more likely to agree on choices made by odor than on those made be sight or hearing?

We think much less in terms of odors than in terms of visible and audible symbols. Our language consists of words which we can speak and hear, and which we can write and read. Olfactory sensations seem to bypass the areas of conscious associations and are therefore more likely to be free of our heavy burden of inhibitions. The brain is known to function as a brake on the automatic reflexes. Decerebrate animals react more vio-

lently to impulses still effective than do normal animals, and they show reflex activity upon inhaling odorants. We develop a high degree of resistance to sensations received through our eyes and ears telling us to go out and buy Dinkel-popper's toothpaste tonight or tomorrow sure. But the proper odorant, unobtrusively added to merchandise, has a potent influence at the point of sale. This influence does not encounter our heavy layer of inhibitions, for odors appeal not so much through reason as through emotion.

Fairbrother[26] remarked: "Smell operates powerfully and directs sometimes the flow of ideas into channels entirely independent of the will." He quotes Montaigne: "Physicians might draw more use and good from odours than they do. For myself have often perceived that according to their strength and qualitie, they change and alter and move my spirit and worke strange effects in me."

It is difficult in some cases to distinguish the direct physiological effects of a volatile substance from the psychological results its odor produces by way of the nervous system. The pituitary gland, located near the center of the brain, sends out numerous hormones which selectively speed up activity in other glands, thereby controlling the chemical status of the whole body. The production of moods by odorous materials may involve nervous stimulation of the pituitary by the nearby olfactory cells, or even its chemical stimulation by the inhaled substance, transferred through nasal epithetlium and tissue fluid into the gland. This possibility should be investigated.

Zahnd & Sapinkoff[25] have compiled a very impressive history of the world-wide use of olibanum (frankincense) in religious ceremonies since ancient times. This ingredient was also included in mixtures for stupefying individuals before capital punishment, and Plutarch commented on the benign physiological effects of its fumes. Its value in religious ceremonies is presumably connected with its ability to induce a mood of well-being and receptiveness to suggestion. Further studies on its physiological and psychological effects should be of great value.

Odors influence moods, and a dependable correlation of odor types with the moods they produce would be of tremendous value. Some statistical studies have been made along these lines, but on a wholly empirical basis. Discovery of the principles governing odor-mood relationships is admittedly dependent upon extensive and difficult research. But the subject is of intense interest and has boundless potentialities for commercial application.

## Summary

In summation, of all sensations odor provides the most direct access to and through the brain, and exerts the greatest control over our emotions and moods. Great gaps in our understanding of odor and olfaction can be filled only after fundamental research in many widely separated fields has supplied the material. We lack knowledge of molecular structure, general cytology, physiology of nerves and the olfactory system, anatomy and physiology of the brain, endocrinology, and many aspects of psychology, as well as accurate knowledge of the odor classification of many pure chemical compounds. Great rewards await the modern Von Helmholtz who will assemble and apply such knowledge.

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## Lehn & Fink Diamond Jubilee

*(Continued from page 686)*

The only effects that were salvaged were the books and records. An indescribable struggle ensued to fill the orders upon which they had agreed, and to recoup the losses that had been sustained. These almost insurmountable tasks exacted, immediate plans were made for their own building to be erected at 120 William Street. The new place of business, to which the firm was moved later that year, was a seven story structure with its own "L" to 79 Beekman Street. Lehn & Fink now was one of the larger wholesale drug houses in the country.

Always pioneers in their field, the Plaut brothers introduced to the ethical market many European therapeutic agents. Lysol, still one of their most widely used products, was among these, and its demand both for professional and household consumption, was indeed significant.

Another substantial importation was that of an aromatic chlorate of potash tooth paste, originated in Germany. This ointment, prescribed for gum massaging and general antisepsis for the mouth, soon was to become the popular Pebeco Tooth Paste.

Under the direction of Robert R. Lampa, an imposing national sales force had been established. Purchasing, here and abroad, was handled by William J. Gesell. Albert Plaut, with executive proficiency, engineered

the expansion of the firm and deftly commanded the increase in its production.

A thriving manufacturing department then was operating in Brooklyn, as 120 William Street had become inadequate to accommodate the volume of business. Every available square inch of the building was devoted to executive offices, stock rooms and shipping departments. The Brooklyn plant and laboratories were cramped for space in which to produce the ever-increasing and diversified line of merchandise. Further expansion fast was becoming imperative.

This was the prosperous condition of Lehn & Fink when, in 1915, Albert Plaut's sudden death stunned the industry. Joseph Plaut, a keen financier, well versed in all branches of the business, and the logical successor to his brother, then became president of the corporation. The young Edward Plaut, who had applied himself during his summer vacations from college to the study of the various departments and intricacies of the business, was prepared to accept a post of responsibility.

Bloomfield, New Jersey, was selected for the erection of a new manufacturing plant, and 635 Greenwich Street, in New York City, was chosen for the site upon which the new executive offices would be built. Supervision of the construction of the plant and laboratories was assigned to William Gesell. Edward Plaut was placed in charge of the reorganizing of the executive and business departments.

Five years of planning, revamping of plans, and finally of actual labor were consumed before, in 1920, the general moving took place. The stock then to be transferred from William Street to Greenwich Street represented more than thirty-thousand items of merchandise. The vast Bloomfield factory, since enlarged many times, was designed not only to produce most of these items, but also to perfect its own machinery, print its own labels and circulars, and to manufacture and decorate its own collapsible tubes and packages.

In conjunction with these measures of expansion, a biological and chemical research laboratory was instituted to work in collaboration with the Department of Chemical Engineering of Columbia University, and with the Harriman Research Laboratory. There, products were subjected to the close scrutiny of research chemists whose interests were to maintain the high standards set by Lehn & Fink for its products, to perfect the established items and to devise new ones. Dr. Moritz Dittmar, the first recipient of the Albert Plaut Fellowship Award now presented annually to a graduating student of the Columbia University College of Pharmacy for the continuation of his studies abroad, returned from Europe to accept a position in the Lehn & Fink laboratories, where he has remained ever since.

When Joseph Plaut relinquished the presidency of Lehn & Fink in 1921 to Edward Plaut, another successful era in the development of the company was launched. Edward Plaut had inherited his father's sagacity, his foresight, and his insight. The first important purchase made under the direction of Edward Plaut was Hind's Honey and Almond Cream, . . . literally a gold-mine. In quick succession were acquired Dorothy Gray, Ltd., in 1926, and Tussy, in 1929. Improvements were made upon the original formulae and supplements were made to the treatment lines. Repackaging and promotions for the products presented them to a responsive public with an appeal manifested by the increase of the sales.

Mr. Joseph Keho was placed in charge of the development and promotion of the Tussy line, later to be transferred to Dorothy Gray, Ltd., of which he is now president. Tussy, to which Mr. Keho refers as his first love, in recent years has been managed by Mr. Paul Carey.

To the old and familiar Lehn & Fink products, now under the direction of Mr. Hugo Bell, have been added new and exciting triumphs, covering every ramification of physical vicissitudes from cosmetics to hospital equipment. The latest of these acquisitions are an ammoniated tooth powder with urea, Peb-Ammo; Portrait, a home permanent wave kit; and O-Syl, an improved germicide, pleasantly scented, for household, first aid, and feminine hygiene.

Mr. Bell and Mr. Moeller, export manager, control the distribution of merchandise throughout the United States, and exportation to every country of the world except China and Japan, with a volume of sales reaching nearly fifteen millions of dollars.

An interesting observation is recorded in the annals of Lehn & Fink that the names of those in executive positions as well as those of the fifteen hundrd employees are repeated from generation to generation. Thirty per cent of the factory employees in the Bloomfield plant have been associated with the firm for fifteen years or more. One employee, Gerald Fahrenholz, retired three years ago, after sixty-four years of service.

Two of Mr. Plaut's three sons today are active members of the Lehn & Fink executive staff. Albert, the eldest is assistant sales manager of Dorothy Gray, Ltd., and Walter, who is making a comprehensive survey of the foreign markets, is assistant to the president.

The expansion program of Lehn & Fink now embraces a new plant whose building alone covers five acres of ground, in Lincoln, Illinois, representing the last word in modern equipment and stream-line methods of production. This ultra-modern structure, conceived by Edward Plaut and designed and constructed by B-W Construction Co., of Chicago, is tangible evidence of the growth and health of this ever-thriving organization. Other plants have been established in Canada, England, France, Brazil and Mexico.

The Albert Plaut Fellowship Award, presented annually at the Columbia University College of Pharmacy, while the most important, is only one of the yearly citations donated by Lehn & Fink. The Lehn & Fink Gold Medal Award is tendered yearly to forty university students in schools of pharmacy all over the country.

So it is little wonder that in this year of its Diamond Jubilee, Lehn & Fink celebrates its prosperity and success, in confident anticipation of a brilliant future, of greater attainments, of wider distribution, and of broader advances in the fields of therapy and cosmetics.

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*DATA SOURCES: I am a subscriber to your publication. I would appreciate information as to where I may obtain books on the following subjects: tablet manufacture, vial manufacture and ampul manufacture. Miami.*

With reference to the production of tablets, I would recommend the book "Manufacture of Compressed Tablets" by Silver and Clarkson. This is available from our book department at $3.00 a copy. I would also suggest that you read the articles which appeared in DRUG AND COSMETIC INDUSTRY as follows: September 1948, page *308*, October 1948, page 458, and March 1949 page 300. I know of no texts on the production of vials and ampuls, though discussions on such products have appeared from time to time in various publications. Information on such items is, of course, given in texts like Remington's "Practice of Pharmacy," and to some extent in the U. S. Dispensatory. I would also suggest that for further information on vials and ampuls that you contact the Parenteral Drug Association, 39 Broadway, New York City.

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| **Nicotinic acid** | **0.375 g.** |
| **Elixir raspberry, to make** | **1000.000 cc.** |

The elixir of raspberry in the above is made from:

| | |
|---|---|
| **Benzoic acid** | **1 g.** |
| **Tincture Cardamon compound** | **5 cc.** |
| **Alcohol** | **150 cc.** |
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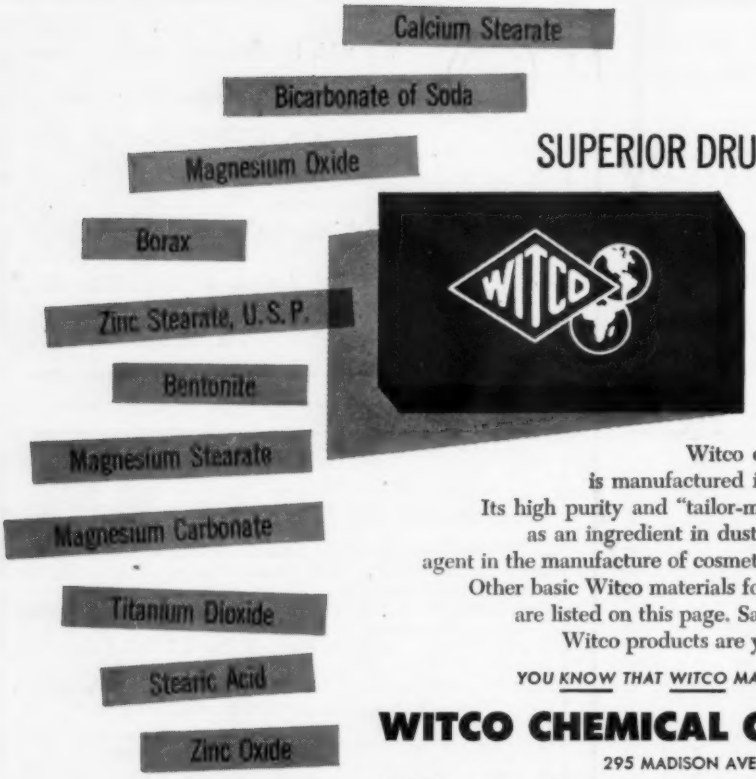


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## ADVERTISING INDEX


Albek, Inc., Albert....738
Alsop Engineering Corp....734
American Alcolac Corp....773
American Cholesterol Products, Inc....744
American Cyanamid Company...Insert facing 709
Amino Products Corp....781, 783
Anchor-Hocking Glass Corp....706-707
Ansbacher Siegel Corp....Insert facing 660
Armstrong Cork Company....Insert facing 705
Atlas Powder Co....672

Baker & Adamson, General Chemical Div., Allied Chemical & Dye Corp..Insert facing 673
Baker Chemical Co., J. T....Insert facing 716
Baltimore News Post....771
Beauty Fashion....Insert bet. 676-677
Benzol Products Co....768
Braun Company, W....750
Bridgeport Metal Goods Mfg. Co....750
Bromund Company, E. A....674
Bush Aromatics, Inc....754
Bush & Co., W. J....760

Calco Chemical Division....668
Calif. Fruit Growers Ex....Insert facing 672, 760
Carr-Lowrey Glass Co....709
Cavalla, Inc., A....781
Chrystal & Co., Charles B....776
Colgate-Palmolive-Peet Co....776
Commercial Solvents Corp....670
Continental Can Co....712
Crown Cork & Seal Co....698
Curtis Publishing Company....710-711

Danco, Inc., Gerard J....673
Devold Oil Co., Inc., Peder....766
Dodge & Olcott, Inc....Insert facing 741
Dow Chemical Co....Insert facing 725
Dreyer, Inc., P. R....Insert facing 661
Durlin Corp....Insert facing 657

Economic Machinery Co....734
Elm Press, The....776
Enjay Company, Inc....Insert bet. 676-677
Eppenbach, Inc....737
Ertel Engineering Corp....735

Fairmount Chemical Co., Inc....783
Felton Chemical Co., Inc....659
Firmenich & Co., Inc....Cover 4
Florasynth Labs, Inc....666
French, Inc., Benj....746
Fritzsche Brothers, Inc....Insert bet. 756-757

General Drug Company....781
Gesell, Inc., R....772
Givaudan-Delawanna, Inc....Insert bet. 656-657
Glycerine Producers Assn....663
Goldschmidt Chem. Corp....Insert bet. 668-669
Greeff & Co., R. W....772

Heyden Chemical Corp....Insert bet. 668-669
Hinde & Dauche Paper Co....Insert facing 701
Hoffmann-LaRoche, Inc....758
Holiday Magazine....710-711
Hooker Electrochemical Co....665
Hormann & Co., F. R....775
Horn, John....774
Huisking & Co., Inc., Chas. L....766

Industrial Chemical Sales....Cover 2
Inland Alkaloid Co....752
Ivers-Lee Company....734

Jelly & Co., Walter H....770
Jones & Co., R. A....Insert facing 700

Kelton Cosmetics Co....765
Kessler Chemical Co....744
Kimble Glass....Insert facing 717
Klinker Mfg. Co....738
Kohnstamm & Co., H....Insert facing 656
Kolmar Laboratories....Insert facing 676
Kraft Foods Company....661

Leonhard Wax Co., Theodor....776
Lowe Paper Company....702
Lueders & Co., George....Insert facing 669
Lukens Steel Company....728

Magnus, Mabee & Reynard, Inc....662
Mallinckrodt Chemical Wks....Insert facing 677
Mantrose Corp., Inc....747
Maryland Glass Corp....Insert facing 704
Michel & Co., Inc., M....781
Monsanto Chemical Co....669
Modern Cosmetics....676

National Aniline Division, Allied Chemical & Dye Corp....755
Naugatuck Aromatics....720
Neumann, Buslee & Wolfe, Inc....768
New Jersey Machine Corp....Insert facing 732
New Jersey Zinc Co....764
Norda Essential Oil & Chemical Co., Inc. Insert facing 748

Owens-Illinois Glass Co....Insert bet. 708-709

Parsons Imports, M. W....742
Penick & Co., S. B....658
Pennsylvania Glass Products Co., Inc....713
Pennsylvania Refining Co....671
Pfaltz & Bauer Co., Inc....781
Pfizer & Co., Inc., Chas....714
Pittsburgh Plate Glass Co., Columbia Chemical Div....675
Polak & Schwarz, Inc....783
Polak's Frutal Works....752
Potdevin Machine Co....735
Progressive Machine Works....783
Pulverizing Machinery Company....736

Reheis Company, Inc....774
Richford Corp....769
Ritchie & Company, W. C....Insert facing 708
Roure-Dupont, Inc....722

Santonin Company of America, Inc....766
Scientific Filter Co....780
Scoville Manufacturing Co....705
Seeley & Co., Inc....760
Selas Corp. of America....730
Seydel Chemical Co....783
Sheffield Tube Corp....653
Standard Cap & Moulding Co., Inc. Insert bet. 708-709
Standard Oil Co. (Indiana)....655
Standard Pharmacal Co....752
Stanton Laboratories, Inc....660
Stokes Machine Co., F. J....Insert facing 733
Stokes & Smith Co....730
Strong Cobb & Co., Inc....Insert facing 749
Sturge Ltd., John & E....Insert facing 724
Swindell Bros., Inc....718
Synfleur Scientific Labs, Inc....Insert facing 740
Syntomatic Corp....657

Tamms Silica Company....783
Terkelsen Machine Co....735
Thurston & Braidich....760
Tombarel Products Corp....656
Trade-Mark Record Book....775
Triangle Package Machinery Co....737

Ungerer & Co., Inc....Cover 3
Union Standard Equipment Co....783
U. S. Automatic Box Machy. Co....726
U. S. Bottlers Machinery Co....736

van-Ameringen-Haebler, Inc....Insert bet. 660-661
Vanderbilt Co., R. T....742
Verley & Company, Albert....Insert bet. 664-665
Verona Chemical Co....Insert facing 668

Watford Chemical Co., Ltd....667
Welch, Holme & Clark, Inc....767
Wheaton Glass Company....708
Will & Baumer Candle Co....664
Witco Chemical Co....784
Wolf & Co., Jacques....773